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28 November-4 December 1985

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Vol 4 No 48

THIS WEEK

- ROW OVER SUPERMAN
- AMSTRAD'S NEW PRINTER
- BYTE TALK

 CODEWORDS
- ST GEMS
 GO ON TEST

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First Spectrum 128s hit the UK

MYSTERY surrounds the arrival in the UK earlier this month of the first bulk delivery of Sinclair's new Spectrum 128 computer.

The consignment of 3000 Spectrum 128 kits manufactured by Samsung in Seoul, South Korea was shipped via Tokyo to MCK Freight, agents acting for Sinclair based in Cottenham, Cambridge.

A spokesman for Sinclair, however, refused to comment on the present whereabouts or final destination of the micros: "I have no knowledge of any such machines", he said.

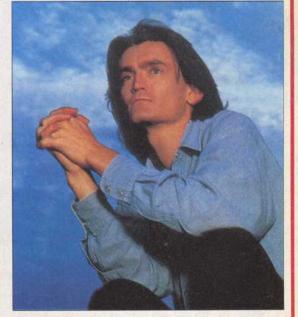
 The computers may be intended to form the basis for a stock-pile of the new models prior to a proposed UK launch early next year. The spokesman admitted a launch in this country early next year

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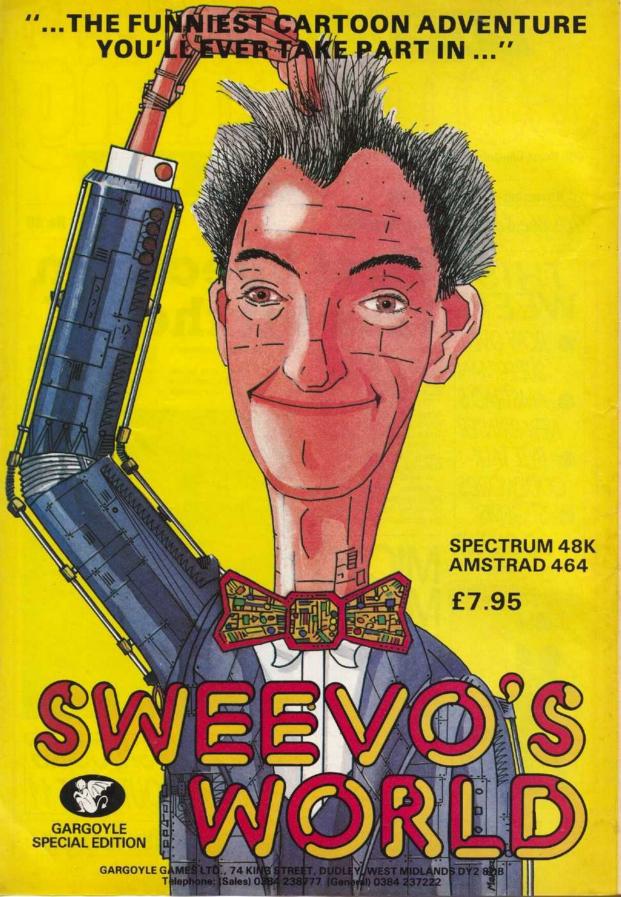


Find out if you have won an Amstrad 6128 this week or at least some special *Popular Computing Weekly* cassette labels. Enter your personal Micro Magic number into our special computer program on page 14.



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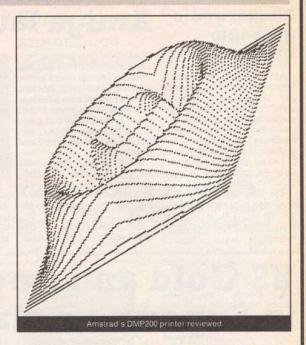
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EDITORIAL

It will be strangely ironic if, as now seems likely, the Sinclair Spectrum 128 and Commodore Amiga are launched over here in the same month - January next year.

Two more different machines would be hard to imagine. The Spectrum 128 will cost about £150, it is an enhanced version of an already successful design and it offers little that is new. The Amiga is ten times the price, and features a brave exciting design and startling new features.

At first glance it would seem unfair to compare the two. After all, the Spectrum 128 has more in common with Commodore's other micro, the C128; and the Amiga seems more obviously compared with the QL's suggested full 16-bit successor.

The Spectrum 128 (like the C128) is a cul-de-sac. It stretches an

elderly design a little further, yet is constrained by having to maintain software compatibility with the earlier model.

The Amiga is free from any such restrictions. And the Amiga is the future. Not yet at a price we can easily afford, but that will change. Full 16-bit machines are here and the race has begun to see who will set the next home computer standard. Will it be Sinclair, with the new OL? Atari with the 260ST? Commodore with a cut-down Amiga? Or, perhaps even Amstrad with a new and as yet unseen machine?

What is certain is that refining and refining the older designs only buys a short breathing space. Soon the 8-bit micros will be unable to compete with the newer faster models.

When both the Spectrum 128 and Amiga are in the shops that will be plain for all to see.

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Mastertronic goes into business

MASTERTRONIC has moved into business software with Ski Writer, an American word processor previously owned by Prentice Hall.

However, the company is continuing its budget price policy and Ski Writer will cost £14.95 on disc for the Commodore 64 and Apple II, and £13.95 on cassette.

The program is also being enhanced to use the capabilities of the 128. It will be launched at the beginning of

Amiga launch date is set

COMMODORE is pushing forward with plans to launch its advanced Amiga micro in the UK next year with the announcement that the machine will be shown formally to the micro trade for the first time in the UK at the Which Computer? Show which runs from January 14-17.

The Which Computer? Show - a business exhibition open only to the trade - will be the first time Commodore has put the Amiga on its

Commodore's stand at the show will be open to third



party software companies to take space and show programs running on the ma-chine, as Atari did for the launch of the 520ST at the

Personal Computer World Show.

"We are hoping for a strong display from software houses," said Chris West, Commodore UK's software evaluation manager. "We are holding a software developers conference at the beginning of December, and the companies know they must have produced something even if it's only a few screens - by the time of show to get it on display."

'There will also be some American products, mainly entry level programs, but also things like Graphicraft. Textcraft, and, I hope, Musicraft, plus one or two games, but not too many."

US Gold and Beyond in Superman clash

BEYOND Software and US Gold have been involved in an extraordinary row over publication rights of Superman, the Commodore 64 game licensed from US company First Star.

Beyond which was recently the subject of a take over by British Telecom, holds manufacturing and publishing rights for Superman in the UK, and US Gold has the corresponding licence for France and Germany.

However last week Beyond heard that US Gold's European version of Superman had been offered to British distributors for sale in this country.

Last Thursday Beyond sought a High Court injunction against US Gold to stop it from selling Superman under the US Gold name in the UK.

However, US Gold's general manager, Tim Chaney, said, "US Gold has not offered to sell Superman to a distributor in the UK. Of course, it is possible that another European distributor may have wanted to export it to them".

128s hit UK continued from page I

was a possibility: "A British version of the Spectrum 128 may be introduced in Spring 1986."

First Spectrum

Another possibility is that Korean-manufactured micros were en route to a destination outside the UK. The Spanish version of the computer is now available in Spain and, though it is being manufactured over there, demand for the new model is expected to be very heavy in the run-up to Christmas.

Samsung, which manufactured the 128s, already manufactures the Spectrum Plus and QL for Sinclair for sale in the Far East.

At the time of the Spanish 128's launch Sinclair indicated that it hoped also to begin production in the UK. Following the favourable outcome of negotiations with its major creditors two months ago Sinclair's British manufacturers of the Spectrum Plus and QL -Timex, Thorn EMI and A5 Electronics - are thought now to be discussing the possibility of assembling the Spectrum 128.

Commented AB Electronics' chairman Henry Kroch, "We are making the Spectrum Plus again now but we will not necessarily make the 128 - that depends on the outcome of our present negotiations with Sinclair."

Automata's Deus revived

MACHINA. Automata's ill-fated computer 'movie' which featured an audio soundtrack with contributions from Frankie Howerd, Ian Dury and Jon Pertwee



among others, is to be relaunched by Electric Dreams

Despite being voted Computer Game of the Year 1984 by the Computer Trade Association, sales of Deus were

extremely low, due Automata's somewhat fraught relationship with trade distributors.

"It's simply a rerelease, with no additions or modifications to the game," said Electric Dreams' managing director Rod Cousens. "We felt that the program deserved it because of its innovative qualities. But we will market it much more strongly.

Deus ex Machina from Electric Dreams will be produced initially for the Commodore 64 at £9.95, a reduction from its original price of £15. It is due out in the second week of December. The Spectrum version will follow.

The dispute has now apparently been settled out of court. "I have a written undertaking from US Gold which says they will not infringe our UK exclusivity to Superman," said Delaney, Beyond's managing director.

"We have also agreed that Beyond will be involved in monitoring US Gold's distribution of the game.

"US Gold's version of the game was being offered to distributors over here but nearly all of them refused to take it, I'm happy to say."

Spokeswomen from both distributors Lightning and Microdealer UK confirmed that they had been offered US Gold's Superman.

Although US Gold's version is planned for sale through US Gold France and US Gold Germany, the German version had its documentation in both German and English. "The reason for that is to cater for the large contingent of British armed forces in Germany," said Tim Chaney.

Beyond's Superman on the Commodore 64 will be priced at £9.95 and available

The company also has versions for the Spectrum and Amstrad in development, which should be available by the end of the year.

American boost for Acorn's BBC micros

ACORN is to re-enter the United States market through a \$1.25m (£0.97m) deal with the British American Scientific Instruments Corporation (BASIC), of Texas, a subsidiary of the Mexican electron-

Micronet helps charity appeal

MICRONET, the interactive database held a special edition of its Celebrity Chatline feature to raise money for the BBC's Children in Need Appeal last week.

The celebrities in question who included Selina Scott, actor Paul Nicholas, several members of the Eastenders cast, and astronomer Patrick Moore, moved to Micronet's office after appearing on screen at the BBC to answer questions from Micronet subscribers who were charged per question. The money raised went to the Appeal.

ics manufacturer and distributor Datum.

Datum is acquire all existing stocks of the American version of the BBC micro, and has also been given manufacturing rights by Acorn. It hopes to produce and distribute BBC machines and peripherals both to the US, and Central America, and eventually to South America as well.

"Our association with Datum goes back a few years, and they have already developed a Spanish keyboard for the BBC," said Valerie Holt, Acorn's corporate communications manager. "Datum will sell a Spanish machine to the Hispanic-speaking population of the southern United States as well as the American version.

"Instead of losing money in the States, we will now be making some. Datum has a large distribution network throughout America."

Commodore announces more losses

COMMODORE International has announced a loss for the three months up to September 30th of \$39.2m (about £30m) on a turnover of £159m (£120m). This follows its fourth quarter (up to June 30th, 1985) loss of \$124m

(£96m) and an annual loss of \$114m (£90m) for the year ending June 1985 (see *Popu*lar Computing Weekly, October 17).

These latest figures are worse than expected but Commodore International's chairman Irving Gould is still predicting a return to profit by December. Continuing development costs on the Amiga and C128 have been blamed for contributing to the poor results.

AMX mouse now out on Spectrum

THE FIRST 'mouse' is now available for the Spectrum Plus.

From AMS, which already produces its AMX mouse system for the BBC, and Amstrad,



the Spectrum package comprises the mouse itself, a dual mouse and Centronics interface and a number of software utilities AMX Art, AMX Colour Palette and AMX Control.

The programs all use icon driven pull-down menus and AMX Control provides 28 new Basic commands, a machine-code Basic interpreter extension program and icon designer.

The complete package costs £69.95. Details from AMS, Green Lane, Appleton, Warrington WA4 5NG.

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Letters

Lenslok 'bug'

Mr loannou's letter, published in the November 21-27 issue, unfortunately contains some inaccuraces regarding the use of Lenslok in our Spectrum version of Elite.

Firstly, there are no limitations to the use of Lenslok as regards television colour or size, with the exception of very small portable TVs (5 inches or less). The few people who have experienced problems with Lenslok did so, not because of the system, but because of a 'bug' which crept into our instruction sheet, which has now been corrected.

Since Mr Ioannou's letter was published we have contacted him and he can now implement Lenslok perfectly on his 26 inch TV. It should be noted that he is now using our new instruction sheet, which is available, free of charge to all Elite owners, from the address below.

Secondly, regarding his point about unnecessary protection on Elite he forgets that most people now have access to a photocopier. Piracy costs the software industry a massive amount of money every year. Companies attempting to re-coup this lost profit must inevitably charge more for their software. If we are to prevent these charges being passed on to the innocent games-player then we must seek to use more and more sophisticated protection systems.

Even if there are a few teething problems this is clearly more desirable for everyone than having to pay out more hard earned cash because of piracy.

Phil Pratt
Marketing Manager
Firebird Software
Wellington House
Upper St Martins Lane
London WC2

Caught-out

Like your previous correspondent (Letters, November 21), I would like to complain bitterly about the Lenslok anti-piracy system on Spectrum Elite.

With a 20 inch receiver I did not find it possible to obtain the callibration required to match the supplied piece of plastic.

With great care it is sometimes possible to observe the "OK" through the lens system but the eye must not be moved from this reference. You are then expected to decode further letters and quickly key them in blindly, still without moving the eye in case you have guessed wrong. The program only allows a few seconds for this before presenting new rodes

I would suggest that the incorporation of this system could lose more sales than any that illicit copying would have done.

Once caught out, I doubt if I will buy another program with such protection.

R H Bradley 21 Dedmere Road Marlow

Clapham Elite

Thave discovered a bug in Firebird's Spectrum Elite.

Once you have got through the Lenslok security loader press Y in answer to Load new Commander Y/N. Then press option 2 and save your position to tape.

Exit the menu with 3. Now the surprise: you will be berthed around the planet Tigean with Elite status, 653425253.5 credits and enough hardware to decimate half the universe this side of Clapham!

> Paul Hughes Room 117 West Wing Guys House Guys Hospital London SE1

Erasing Tasword

Just a short program for the 48K Spectrum to give the Microdrive version of Tasword II the ability to erase a file from within the program.

22 Print at 0,0: "Erase Text File e" 25 (Take out Gosub 4000) 100 lfb=101 then let i=0 200 (Take out Gosub 4000) 605 lf b=101 then go to 8000 790 (Alter Goto to 20) 860 (Alter return to Go to 20) 1110 (Alter Goto to 20) 5020 (Alter Goto to 20).

8000 Cls: Cat md: Print at

10,19; "Enter file"; at 12,19; "to be"; Flash 1; "Erased" Flash 0 9010 Let a\$= inkey\$ 8020 Input a\$ If a\$= Then go to 8010 8025 Cls: Print at 10,11; Flash 1; "Erasing"; a\$; Flash 0 8030 Erase "m";md; a\$ 8040 Go to 20.

You can then run the program and erase *Run* and *Tasword*, then resave from within the program. I have found it very useful.

R. Abrahams 14 Mill Road Wingham Well

Faultless

feel I must write to say your review of Ultimate's Nightshade was faultless.

It is high time Spectrum owners realised that the sun does not shine out of Ultimate's joystick ports!

Having said that I must admit their previous releases were all brilliant.

> Jon Rose 14 Lion Road Nyetimber Bognor Regis Sussex



C64 Rom Change

It was interesting to see an article by Tim Decker in the September 19 issue concerning permanent changes to the Commodore 64.

I have been doing something on similar lines but have extended it to cover the blowing of an Eprom containing the changes and the manufacture of a suitable adaptor to convert the 28-pin Eprom to the 24 pins of the Rom it replaces.

If anyone wants to know more perhaps they could drop me an SAE.

Robin Harvey 30 Wimborne Close Coombe Glen Cheltenham

Twin furore

There has been much furore recently about Amstrad's twin-deck unit.

Once again, we are told that such devices 'breach copyright' and should therefore be banned.

There seems to be a misconception (deliberately fostered, in part, by the software houses themselves) as to what, exactly, 'copyright' is and what rights the consumer gets under it.

Contrary to popular belief, the copyright laws are not intended to block legitimate usage of items for which the consumer has paid good

Magnetic media are not infallible. Indeed, on the contrary, my experience is that protection schemes are self-defeating, forcing me to break the protection and make a copy simply so that I have one which will load.

It is true that these gadgets could be used to break the law, making multiple copies to give or sell to others, but 'could be' is nowhere near strong enough a reason to ban them.

Whilst condemning the lawbreaking potential of their customers, the software people all ride around in cars; don't they know that cars could be used to kill people? That's far worse than a few illicit copies! So, let's ban cars, knives, headache tablets etc.

I sincerely hope that the revised copyright legislation does not rescind the provision of the 1956 Copyright Act which specifically permits the purchasers of copyright material to copy it for their own use.

Gaal Dornick 42 Mallow Drive Hardinville

H you like

CRACKERS

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The Giddy Game Show is new, it's fun, it's for under 5's and their parents - and it's being broadcast nationwide by Yorkshire Television.

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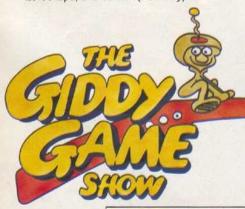
To be published in November with full-colour storybook for BBC B/Electron and Spectrum, £9.95 tape, £12.95 disk (BBC only).



Home of the team that brings you Crack It! puzzle magazine, Crack It! Towers conceals a magical secret within its walls. Players must solve puzzles to collect the seven golden keys needed to unlock the secret of the Towers - if they fail to solve a puzzle, they'll find themselves in the moat, and the less-than-alert could have their keys stolen by any of the castle's more unfriendly residents. But there's also the chance to gain bonus keys in the Maze of Skulls.

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To be published in November for BBC B/Electron and Spectrum £9.95 tape, £12.95 disk (BBC only)



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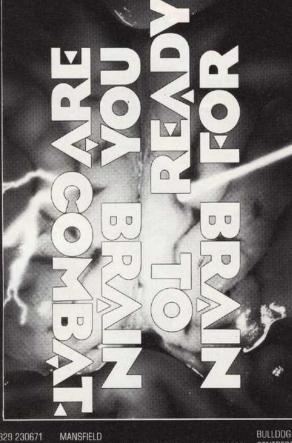
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"Well, er ..."

"Right, we'd better hurry up and design a new ad before the game hits the streets on 9 December, and people start writing to and phoning Century Communications at 62-65 Chandos Place, London WC2N 4NW, Tel: 01-240 3411 and asking for copies.'

THURRINEST ABK Spectrum HOUR

Their Finest Hour — a great strategy game simulating
The Battle of Britain, by Nicholas Palmer and John Wilson.
Published by Century Communications for the 48K Spectrum at £9.95

John Wilson and Nicholas Palmer

Sharkey's machines

hen you meet Feargal Sharkey, ask him why he's become such a wimp since the *Undertones*," demanded a friend of mine who still nostalgically keeps a ripped T-shirt and bondage trousers in the back of his wardrobe.

Certainly the contrast between the Feargal Sharkey of today and of *Under*tones days could hardly be more

marked.

At least he still has the same distinctive voice; he must be one of the few singers who needs to smoke heavily to retain their voice.

Feargal sees his departure from the Undertones as his natural route to expand his musical range. "I just got bored, really. We'd made four albums and toured non-stop for five years. After that, I simply wanted to go and do something else."

But what, you may ask, is Feargal Sharkey doing in Popular Computing

Weekly in the first place?

The reason is that he leaves most people who like to call themselves micro buffs on the starting block. Not only does he rush home to his Apple MacIntosh, Tandy 100 and Commodore 64 whenever possible, but he raves over Archon, accesses Micronet day and night, freaks over his Fairlight, and – here's the crunch – in a previous existence, he actually used to make microchips.

"I worked at Thorn Electronics in the days before it was Thorn EMI as an electronic engineer designing chips, and although I got sidetracked by music fairly early on, I'm still interested.

"I decided one day that I wanted to make my own record, and I went out and did it. It cost me the grand total of £108 including VAT, for a four track single! Not bad, seeing as it made the top 30.

"Now computers have made music a lot simpler – the polyphonic step-time synthesisers where you play in one note at a time, and it comes back at you like real music mean that you can really do anything you like."

Doing anything he liked on the synthesiser evidently paid off. First of all there was *The Assembly*, where he made up a duo with Vince Clarke, ex-Yazoo, which spawned the top-selling single *Never Never*.

Then came the solo career, with Listen to your Father, Loving You and the number one hit A Good Heart.

Powerful songs which owe a lot to powerful toy as his brand new Fairlight – £58,000 worth of electronic music. "It's absolutely wonderful – I've hardly slept at all since it arrived.

"For a start the manuals are about four feet high, and once you've got the idea,

you stay up all night, every night, smashing dinner plates against the wall, slamming doors and so on, just to sample the noise they make in 90 different ways. And as for the sampling time, it's about a week long . . . no, no, I can't remember exactly, but it's fairly astonishing."

He's hardly had time to use his computers recently - he uses the Tandy for Telecom Gold, mailboxing his manager and agent, and basic accounts, the Commodore 64 for games and Prestel/

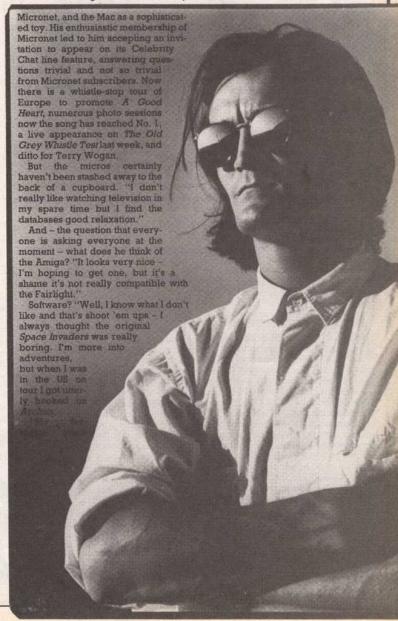
should be Elite - I think it's wonderful but I've never been able to get a copy. I tried to buy it when I got back from the US tour but unfortunately I had the humiliation of having my Access card refused for being over the limit - having been out of the country for four months, I hadn't made any repayments."

He shouldn't find it too difficult to pay off Access now. The new album, Feargal Sharkey, has received excellent reviews and the follow-up to A Good Heart is

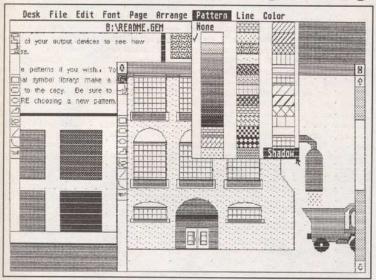
being released next week.

"It's called Someone to Somebody, and I would love it to be number one over Christmas," says Feargal.

Christina Erskine



ROUGH-CUT GEMS



like all good computer manufacturers, promises of items available for or with a machine are made good – even if they're almost six months late.

Atari promised to bundle a wordprocessor with the 520ST, namely Gem Write, written by Digital Research and at long last it is nearly available.

So also is its stable companion, Gem Draw, a design package which will be sold separately.

Here Jeremy Vine previews the two packages for the first time.

Program Gem Draw Micro Atari 520ST Price £149.95 Supplier Atari UK, Atari House, Slough, Berks

em Draw, not to be confused with Gem Paint (also 'to be' bundled with the machine), is a simplified CAD (Computer-aided Design) package which allows the user to mix text and graphics on-screen, to create drawings and diagrams. The layout of the screen display is similar to all Gem packages with a menu bar running horizontally across the top of the screen. From this position the user can call one of eight pull-down menus. Used in combination with a set of drawing tools shown vertically on the left of the screen window, all drawing action can be controlled from the mouse.

The drawing area displayed on the screen is only a window on a much larger drawing board. Moving the mouse pointer over the Panner icon, causes the screen to display a reduced version of the entire drawing area. The Panner icon is useful not only in showing diagrams that spill beyond the initial drawing area but also when using the

Panner icon is useful not only in showing diagrams that spill beyond the initial drawing area but also when using the Zoom command.

Zoom is called from the page menu and is, as you would expect, a facility enabling specific areas of the screen to be magnified for detailed touching up. The picture often zooms into an area which you don't wish to enlarge and this is where the Panner is of use. From the global view of the drawing board, the magnified area is shown by an outlined boxed area. This

box shows the window area on the normal display screen and can be moved by mouse.

The drawing options offered are relatively primitive in relation to a professional CAD package and these consist of icons representing rectangle, rounded box, circle, polygon. freehand draw, line, arc and

text. When anything is drawn, regardless of size or shape and the mouse button released (usually indicating the end of a drawing process), a box is immediately placed around it. These are called 'extents' and show the currently worked-on element of a picture. This allows all elements of a picture to be moved independently of each other. The extent box has a further use in changing the proportional dimensions of an element's width or height. In this way a shape can be stretched and distorted.

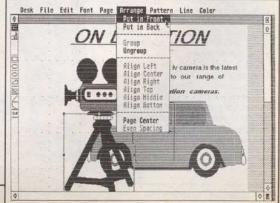
The drawing tools for creating ellipses, circles, rectangles and squares are activated from the mouse. By dragging the mouse and holding down the left mouse button any of these shapes are created. At this stage the user can then use the Line, Color or Pattern menus to complete the drawn element.

A total of 39 shading patterns are available from the Pattern menu. By pulling down the pattern menu and selecting a specific design pattern, the area within the shape (inside the current extent box) is then filled with that pattern. The Line menu provides options for thickness of lines, whether the lines are dotted, broken or connected and a facility for placing arrows at the ends of lines (useful for flowcharts). The 'Color' menu is of use only if you possess a colour monitor as the monochrome version shows only black or white – no shades.

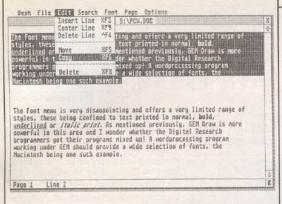
Text can be freely integrated into any area of the screen and different character fonts (size, italics, etc) can be chosen from the Font menu. The choice of fonts was stronger in Gem Draw than in Gem Write, which seems really odd.

Any element of a drawing can be deleted and replaced if necessary, by use of the Edit menu. The File menu offers the usual array of filing commands for storing drawings on disc and output to a printer or plotter. The version of the program I preview here contained a driver on a separate disc for Epson compatibles.

Finally, what has to be the most impressive part of the package – the Arrange menu. Drawing elements can be placed behind or in front of other drawing element and drawings aligned and centered on-screen. This facility is sim-



ST Software Preview



plicity itself to use but delightfully powerful in effect.

Gem Draw as a basic drawing tool is wonderful to use because of the windowicon-mouse-pointer environment and this was borne out by its instant use with little reference to a manual.

However it's by no means a heavyweight in CAD programs and this is not its intended market.

I really enjoyed using Gem Draw and it will no doubt find a place in many a program library, not least in conjunction with the other piece of software I preview here, Gem Write.

Program GemWrite Micro Atari 520 ST Price Free with machine Supplier Atari UK, Atari House, Slough, Berks

G em Write is the freebie wordprocessor included with the 520ST computer.

It is a basic level package but more

than adequate in providing the essential commands for composing documents. Because Gem Write was included as a thrownin element of the ST package I was expecting very little from it but was pleasantly surprised.

Wordprocessors are, in general, notorious for the length of time it takes to become acquainted with the most rudimentary

commands, let alone the more complex facilities. Gem Write goes against the grain in being quick to use possessing facilities that are adequate for home and small-business use. Without reference to a manual (I didn't have one!) I mastered all of Gem Write's commands in a space of time that would normally be used to acquire the absolute basics on another wordprocessor. This is very much due to the nature of mouse driven programs.

The program can be controlled through a mixture of mouse and keyboard controls with the pull-down menu options selected by the mouse also available from the function keys on the ST keyboard. Typing on the screen starts from wherever the flashing cursor bar is placed (by moving the mouse) and text is automatically wrapped-round and justified at the end of a line.

Six menu options exist besides the usual Desk menu, these being File, Edit, Search, Font, Page and Options.

File is the same as for Gem Draw

except that text or graphics (from Gem Draw) can be inserted into the Gem Write document.

Two options for printing out text exist, one being a Print Draft command that prints a draft copy of the document very fast but leaving out text attributes like underlining, italics, pictures. The other To Output option produces the document in its final format.

The Edit menu consists of facilities to insert, delete and centre lines as well as moving, copying and deleting text. All these commands, in common with most within the package, rely on the user highlighting the text to be worked-on (ie copy a block of text). This is simple and involves moving the cursor to the relevant text, holding down the mouse button and dragging the pointer over the area of text concerned.

The Search menu is for finding and replacing text as well as instructing Gem Write which page of the document to display. The screen shows only part of a physical page but a page-break line is shown at the end of each page.

The Font menu is very disappointing and offers a very limited range of styles, these being confined to text being printed in normal, bold, underlined or italic print. As mentioned, Gem Draw is more powerful in this area and I wonder whether the Digital Research programmers got their programs mixed up! A wordprocessing program working under a Gem-like environment should provide a wide selection of fonts, look at the Macintosh example.

Margins, Tabs and Rules are set from the page menu as well as the formatting options such as justification, pagination, line spacing, page length, etc. All these options are clearly presented and easy to implement. The document can be scrolled in either direction by holding down the arrow keys on the keyboard with page-jumps effected by the combination of the Control and Arrow keys.

As a wordprocessor, Gem Write lacks the finesse of more professional packages but is still a very fine basic level wordprocessor.

liked both packages. On the plus side was their ease of use and friendly front end appearance. On the minus side, both packages lack a number of features that can be found on other pieces of software.

Gem Draw at a proposed price of £149.95p is way over the top for this kind of packages and is at odds with the pricing of similar products on the ST (£50 to £100). Perhaps sanity will prevail. Anyway, a good attempt by DR and perhaps a promising sign of better things to come.

Jeremy Vine is the author of The Atari ST Companion, published by Sunshine Books, price £9.95p.

The VT52 Emulator Software

ne of the most under-publicised features of Gem on the Atari ST is the inclusion of a terminal-emulator. This nifty little piece of software is one of the few programs actually available to early purchasers of Jack Tramiel's super-micro. It is also very useful as it immediately opens up the world of communications to the software-starved ST-user.

Selecting the Desk option from Gem allows you to choose the characteristics of the built-in RS232 port or to run the terminal-emulation program. RS232 baud rate can be selected as 300 (for bulletin boards), 1200, 4800, and 9600.

Duplex can be set to full or half. Normally this would be set to full duplex when using a modem, although this depends on the computer at the other end of the line. I found that full duplex was fine for bulletin boards but when connected to a friend's computer (via modems and Telecom) half duplex was more practical.

The RS232 connection itself is refreshingly straightforward. You need a cable with a 25-pin D-type plug although this must be a female type rather than the more usual male type. Pin connections usually cause all sorts of problems with RS232 but Atari seem to have stuck to the standard as I had no trouble at all connecting to the two modems that I tested. Watch out for high prices on ready-made cables, though.

Terminal-emulation is the simplest type of communications software. You can send characters as they are typed in and received text is shown on-screen as it comes in. You cannot send or receive pre-prepared files, nor can you exercise much control over things like linefeeds, control-codes and display format.

In conclusion, the terminal-emulator will let ST users who have less than a passing interest in Logo get on with using their machines while they wait for the production versions of Gem Write and the rest of the promised software.

John Cochrane

Micro Magic



Popular Computing Weekly

Micro Magic



The Amstrad CPC6128

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- The program will tell you if you have won a prize this week and what it is.
- 4) If you have won a prize you can claim it by filling in the coupon on the back of your special Micro Magic card. Then send

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Micro Magic: Week 9 Program listing

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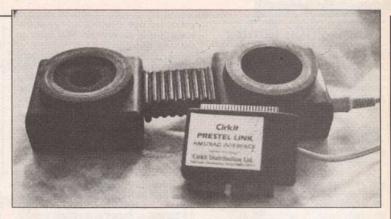
Prestel link

Hardware Amstrad Prestel Link Micro Any Amstrad CPC Price £29.99 Supplier Cirkit Holdings, Park Lane, Broxbourne, Herts EN10 7NO

he most important thing to say about this package is that anyone with an Amstrad CPC computer should drop everything, get out their cheque books, and buy it now! It represents remarkable value for money, and whilst it may not have the sophistication of labour saving features of more expensive communicator set-ups, it provides an unparalleled opportunity for an entry into the world of Prestel, Bulletin Boards and the like.

The package is a joint production from Cirkit, who produce the hardware, and Honeysoft, who have written the software. For your money you get a RS232 interface, complete with driving software, a Protek battery-driven acoustic modem (built by Cirkit) and, gratifying with such a budget purchase, some quite usable and readable documentation.

The interface is not as flexible as some you can buy, it offers 75/1200, 1200/1200 and 300/300 baud rates with handshaking. The latter is surprisingly not supported by the modem supplied, but the available options are certainly sufficient to allow you to access the most popular telephone services including the new AMSNET boards for Amstrad users, and of course other modems can be fitted if the hobby really grabs you . Incidentally, the interface will not work with CP/M but the accompanying software provides you with RSX extensions



to Basic which can be used in your own programs to connect with other peripherals such as printers and plotters. It uses a DIN type plug rather than a D connector.

The modem is the acoustic sort that gets both ends of the phone stuffed into it, you are probably familiar with them. It is said to be more reliable than some direct contact modems (the ones that plug into the wall telephone socket) and compatible with most standard designs of telephone, which sounds worrying for those with the standard designs of phone that will not fit. In practice you shouldn't have any problems unless you have a Mickey Mouse set or keep your phone in a tiny alcove in the hall.

The accompanying software does several nice things. For a start there is no Amstrad display mode that directly corresponds to Prestel standards, 40 columns and eight colours, so you are offered the choice of operating in low-

res multicolour, with the character set redesigned to produce 40 columns, or in high res four colour mode with stippling effects used to approximate to the missing colours. The last received page is held in a memory buffer so you can change modes, etc, without losing the picture.

On loading you are given a menu choice of options, there is a Prestel mode, a terminal emulation mode compatible with Telecom Gold and the like, and a mode for sending and receiving ASCII file text or programs down the phone from one Amstrad to another. The latter has its own error detecting system.

Unless you have a specific use for a modem that exceeds these capabilities, this package is an excellent value means of testing out a new hobby and provides you with an RS232 that will work on most applications as well. Worth 30 quid of anyone's money.

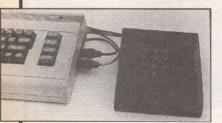
Tony Kendle

Datapad 16C

Hardware Datapad 16C Micro Commodore 64 Price £39.95 Supplier Voltmace, Park Drive, Baldock, Herts

otwithstanding its excellent keyboard, the Commodore 64 does have some deficiencies.

From my days with the old Pet comput-



ers, I can recall the value of the numeric pad on the right-hand side of the main keyboard. This convenient duplication of the number keys was a particular boon. The idea behind the Datapad 16C is to provide the same for the C64 – an additional programmable pad of 16 keys.

What you get for your money is a wedge-shaped metal box about six inches square. The two leads from the pad plug into the two joystick ports and the standard of construction is good with high quality keys mounted on a decent glass-fibre circuit board.

The feel of the keys is better than that of the 64 itself and a dimple is provided on the 5 key as a reference point. The keys are marked with the ten numbers, full stop, equals and the four standard arithmetic operators with the normal layout for a numeric pad.

So you plug it in, switch on and what happens? Well, not a lot. Pressing the keys simply duplicates some of the other keys. To make the system work, a small piece of machine code must be installed. This code tweaks the look-up table in the Rom coding and links the modification

into the operating system.

The software gives detailed instructions on how to use the pad and allows you to define the keys to give the characters of your choice. You have the option to save the definitions on tape or disc.

Clearly, this pad is aimed at the serious user. First it pinches both joystick ports, precluding games, and second you cannot get any of the graphics characters since they have been reprogrammed. One strange feature of the system is that Shift Lock must be engaged before the keys give the required responses.

So who might use this product? Anyone who has to input a large quantity of numerical information. It will clearly be of value to anyone keying data into databases or payroll systems.

The particularly attractive feature of this product is the open way information is provided. The two pages of instructions supplied give details on how to adapt the software to work with discs and how to relocate the machine-code so that it doesn't interfere with your own software. I wish other manufacturers, including Commodore, would adapt such an open attitude.

Inevitably it will have a limited market, but it is a robust, well made product which functions efficiently.

Alan Webb

DMP-2000 Printer

Hardware DMP-2000 printer Micro Any with Centronics printer connection Price £159.95 Supplier Amstrad Consumer Electronics, 169 Kings Rd, Brentwood, Essex.

mstrad has done it again! So good is its new dot-matrix printer that I am very likely to run out of superlatives before the end of the review.

Let me say right now that if you do not yet own a printer, then this is most definitely the one for you. If you do then this is very likely better than the one you presently own.

At less than £160 (or only £136 through the Users Club) this is without doubt one of the best value for money dot-matrix printers available today offering an unusually wide range of type styles.

The price includes the interface cable to the Centronics port on the back of the computer, so it's only a matter of plugging in and away you go (apart from a plug).

Cosmetically the printer is coloured in what now is recognised as Amstrad dark grey, neatly matching the other hardware from the same stable. The most visually unusual aspect of the printer is the pair of folding legs that the machine stands on, thus allowing storage of fanfolded paper underneath. This tidies up the work station no end.

Apart from the printer itself, you get a comprehensive handbook and on the underside of the polystyrene packing, so well secreted away that mine was first thrown into the dustbin, the all important printer ribbon.

All you need to know about plumbingin the printer is adequately explained in chapter one of the accompanying handbook. However, do beware the instructions on Page 7 with regard to fitting the cable into the port on the back of the computer. The plug has to be presented to the port with the ribbon cable emerging from the top of the plug, and not from the bottom as shown in the book.

Defaulting to Pica typeface at switchon, this being perfectly suitable for draft work or program listings, other type styles are Elite, Proportional, Condensed and Near Letter Quality. The following functions can be applied to these main typefaces. Subscript, Superscript, Double-strike, Italics and Bold.



Popular Comput

Popular Computing Weekly

This is an example of Near

Letter Quality printing

Additionally both Underline and Double-width modes may be applied.

Consequently a great variety of fonts are readily available. Examples of all the various Escape codes and sequences are given in the manual, and all are written in either sensible English or Locomotive Basic. As an added bonus to anyone out there with a computer other than an Amstrad, all the commands are given in Microsoft Basic, BBC Basic and Commodore Basic.

Five modes are offered for graphic printing. The example in the figure was produced using the bit-image mode. This review only scratches the surface of what is possible with this superb piece of hardware.

GAME

David Holmes

PRICE

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Midi music

Program Advanced Music System Micro Commodore 64 Price £14.95 Supplier Rainbird Wellington House, Upper St, Martins Lane, London.

here seems to be a virtual plethora of programmable music software available at the moment like Activision's Music Studio. Ariolasoft's Music Construction Set and even Melbourne House's Wham! Music Box. but quite frankly, they all play second fiddle to this simply astonishing program from Rainbird, the new spin-off from Firebird.

The Advanced Music System, hereto referred to as AMS, is so comprehensive it can even be used at professional level by musicians who use a Midi keyboard.

The music is entered via a number of different options: for instance, the Editor module lets you catalogue in written music format, inserting notes one at a time on to

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'electronic sheet music' Select the Keyboard module and you can use the keys of your 64 to play notes and sounds which automatically appear as written music on screen. All manner of instruments and sounds can be reproduced by the program if you play around with it long enough. Calling up the Synthesiser option is really

where AMS comes into its own. The synthesiser creates and edits all the sounds used in the program and can, for instance, take a note, shape and bend it, change its pitch. attack, or duration and in fact, do with it what you will - the possibilities are endless. Also available is a sequencer file, which allows tunes to be played back whilst you

change or edit the sounds.

There is also a facility to include lyrics directly above the sheet music as it is printed

All the on screen information is dealt with using pop up icon graphics, very pleasing to the eye and most of the keyboard operation is via the function keys, keeping operation as simple as possible in such a complex program.

Supplied on the disc are many examples of tunes and sounds, in fact, side B is full up with them. I have never heard so many sounds from my 64 and there is no doubt that AMS is way ahead of anything else on the market.

Obviously, the disc version is the most complete and comprehensive and although pricey at £39.95, it is a must for any musically orientated person. However, there is a version available on cassette at £14.95, which is substantially cut down. The Midi facility and printout options are dropped, but it is still good value for aspiring musicians.

Andy Moss



Old aged

Program BC's Quest for Tires Micro Spectrum Price Supplier Software Projects Limited, Bearbrand Complex, Allerton Road, Woolton, Liverpool L25 7SF.

tires (sic) but for his bird. Cute Chick (very sick) who has been captured by a dinosaur. So this fossilised Clive leaps on his C1 and pedals off with nary a rock (pun!) until he fails to jump a stone or pothole when he rolls (another pun!). Other hazards include trees with branches to

by Dooky Bird airlines.

The presentation is shocking and there are some attribute problems way beyond those that are inevitable with the machine. In play it's quite engaging, though your reactions soon

mechanical.

Okay for simple arcade fun but the price is way over the top for something that's patently prehistoric.



John Minson

toneage antics with Thor who rides around his neanderthal world on a flint wheeled unicycle.

His quest is not to be for

duck and bars to leap over.

The journey progresses with more of the same though up-hill, and there are falling rocks and a flight across a pit

More sand

Program Decision in the Desert Micro Commodore 64 (disc) Price £14.95 Supplier MicroProse Software, US Gold, Unit 10, Parkway Industrial Centre, Heneage Street, Birmingham.

ecision in the Desert follows very closely format MicroProse's first strategic level Second World War game, Crusade in Europe.

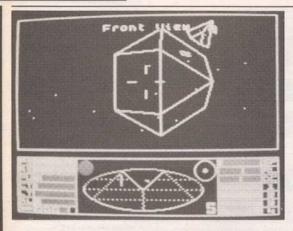
The game is at least as enjoyable to play than Crusade; indeed it has some positive advantages. The chief amongst these is that it is much faster moving. There are two reasons for this one is the smaller scale (one hex equals three instead of six miles), the second is the nature of the desert campaigns themselves. The game faithfully recreates the often chaotic, feel of the desert battles.

MicroProse has deliberately chosen to emphasise this side of the desert war in its choice of scenarios. There are five: Sidi Barrani, Operation Crusader, Gazala, first Alamein and Alam Halfa, each of which contains several sub-scenarios offering the player plenty of choice.

MicroProse omits the second part of the battle, claiming the object was to recreate the cut and thrust of the first half. This the program does very well - a very good strategy simulation.

Peter Berlin

Reviews



Prime cut

Program Elite Micro Spectrum Price £9.95 Supplier Firebird Software, Welling House, Upper St Martin's Lane, London WC2 H9DL.

t last it's here and it's one of those games I'm unbearably enthusiastic to review. I've seen Elite on other machines and it's my sort of game, combining action with thought, providing a vast scope for free movement, a real adventure

through eight galaxies and 2,000 plus planets. As I collect one of the first production copies I'm nervous. Will Spectrum owners really be able to indulge themselves in the lifestyle of an intergalactic trader just as Commodore and Beeb owners have?

Even that controversial security system, Lenslok, is persuaded to work second time and I'm at the controls of my Cobra Mk III, launching, practising manoeuvres. I play throughout the day. I play into the night. Have they done it? Yes!

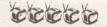
However I must qualify that 'yes', because some aspects of the game are less than perfect. For instance, the 3D line graphics are smoother than in pre-production versions, but you can still see the stars through solid objects – a limitation of machine memory, I presume. It's not a game for the impatient either, because at the start, without a

docking computer, you'll spend ages learning to control the ship. Those who prefer a swift shoot 'em up should return to Space Invaders immediately.

But I can ignore these 'failings' because of the virtues. That very difficulty means that you have to work at this game. Combine that with excellent documentation, from the Cobra Owner's Manual to the identification chart, and unlike any other program, Elite becomes role playing. It fires the imagination and draws you into a credible universe.

So if you want to live this adventure, join the Elite, and one day, with years of experience behind us, we'll meet on a space-station in some galaxy far from our starting point and swap stories of space trading.

John Minson



Words

Program New Word Micro Amstrad CPC 6128/PCW 8256 (CP/M Plus) Price £75.00 Supplier Newstar Software Ltd, 45 Plovers Mead, Brentwood, Essex.

ith the release of the large memory Amstrad machines the amount of available CP/M software has suddenly burgeoned. However the price of many of the releases is more than the hardware. New Word, a word processor, is an exception in that it has actually undergone some price cutting to attract a wider market but despite that it is still expensive by home micro standards.

Perhaps the most important point is that New Word in very many respects behaves exactly the same Wordstar, same control commands, same sort of file for-mat etc. Some cynics may suggest that this is a positive disadvantage but Wordstar dominates professional word processing to an extraordinary degree. Jobs are advertised for Wordstar trained typists, many professional software packages and printers are configured to fit

around Wordstar files, use the same commands etc.

Okay, why New Word rath-

er than the similarly priced Pocket Wordstar. Because it has a lot extra that Wordstar doesn't. Built in Data Merge (for form letters) with powerful conditional features, an 'undelete buffer' for recovering erased blocks, faster response times and better help facilities.

Like most CP/M word processors you will get on much better with two drives, but 80K room can be made on a single drive work disc if you are ruthless.

Tony Kendle



On board

Program Inter-Sheet ROM Micro BBC B Price £56.35 Supplier Computer Concepts, Geddesden Place, Hemel Hempstead, Herts HP2 6EX

hen the firm which gave us Wordwise produces a new chip all BBC owners sit up and take notice.

When that program is a spread-sheet both faster and with more features than programs normally costing lots more we pay even closer attention. When it also forms a series of linked utilities which bring instant communication

between programs - then we rush out to buy.

Inter-Sheet is first rate. It offers you a spreadsheet of 38 by 255. You see a section at a time and scroll over the whole lot easily young Wordwise-type controls. The package has been designed to be very familiar to anyone who uses Wordwise.

On spread-sheets you enter data in some boxes and formulae in others. The formulae will, for example, total up columns, rows or certain boxes as you specify. Inter-Sheet has all the usual BBC Basic mathematical functions, most of the logical operators, plus special features such as averaging and summation. Even discount tables can be incorporated.

The system is easy to use yet can be adapted to suit most purposes. You can adjust box sizes, change the mode, alter colours, centre headings...the list is nearly endless.

You can dump the spreadsheet or parts of it to a printer, send files to a word-processor or link to other chips in the *Inter* series to pass on details immediately. You can also work with up to 16 different sheets at once in memory.

At last spreadsheets have come to the BBC in a topnotch form. *Inter-Sheet* will do for figures — what *Wordwise* did for writing.

Dave Watterson



Duo

Program Zkul and West Micro Atari ST Price £24.95 Supplier Talent Computer Systems, Curran Buildings, 101 St James Road, Glasgow G4 0NS.

kul and West, two text adventures from Talent, have been very successful on the Commodore and the QL.

Talent is the first British software house to write a commercially available adventure for the Atari ST.

Apart from the colourful scene-setting picture on loading, both adventures are textonly, black-on-white and follow the usual pattern of such affairs, with complex sentence input being possible. There are, naturally, a few innovations - the player can ask the computer,"What is (this thing)," when confronted with a wizardly-named object, like the trisk (ask the computer what that means) or the cossat (ditto). Typing Health gives a rundown of the player's state of well-being, while also shows the number of moves and restores since the game started.

The scenario of Zkul consists of well-worn pages from

the fantasy book, placing the player in a subterranean complex of dark passages, peopled by short fat gnomes, beset with fiendish mazes and littered with treasure such as pearl necklaces and silver bars. You've seen it all before, but the puzzles therein are pretty esoteric - the aforementioned cossat lands you in a shrinking room which will crush you to death if you're not quick enough to solve the room's riddle. A free clue here - try kicking the portcullis to enter the underworld!

West, as you may surmise from its title, is set in the Wild and Woolly West (of the late 18th century America), and features bank robbers, rattlesnakes, flea-bitten nags and the tumblin' tumbleweed you can almost hear the sons of the pioneers in the background. This is an unusual scenario, but quite successful, offering as it does the chance of winning promotion to Marshal and the ensuing fight against the baddies. You start the game with only your six-gun for company. The buzzards are lurking, licking their beaks and just waiting for you to make a wrong move. Like Zkul, there is a resurrection facility available, but this tends to leave the landscape littered with

smelly corpses.

Both adventures play well, though Zkul seems to me to be the more addictive of the two. I was disappointed that the extra memory of the Atari was not used to give us more detailed location descriptions, and maybe more puzzles, than the orginal versions, as Talent seems to have done a straightforward conversion (though West now

contains a good version of a Blackjack game in case you need a rest from all the adventuring) – a few days' thought would surely have produced even richer games? Having said that, having these two adventures on one disc is certainly excellent value.

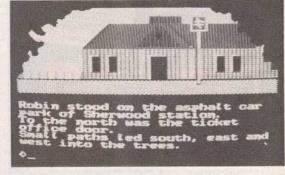
Tony Bridge



Rob the rich

Program Robin of Sherlock Micro Spectrum Price £7.95 Supplier SilverSoft Studio 7D King's Yard, Carpenters Road, London E15 2UD.

Riddle: What's found on Sherlock Holmes and in Sherwood Forest? Answer: A deer stalker. Only playing area is vast (too vast?), some illustrations are very good. The speech capability (to quiz Hurn – sic – about his alibi, etc) and sentence input disguise the Quill origins brilliantly, but this seems to have resulted in a less than friendly vocabulary. A nice joke about how boring the forest is soon became boring itself and the repeated pictures take too long to redraw. Similarly anachronistic



Perspective

Program Chimera Micro Spectrum Price £3.95 Supplier Firebird Software, Wellington House, Upper St Martin's Lane London WCZH 9DL.

nce we all marvelled at Ultimate's 3D techniques but today everyone gets in on the act,



even at a budget price.

Chimera helps launch the Super Silver range, at twice the price, but that's still half of what you'd pay for Alien 8. I reckon some cloning has been going on in the depths of space, because here we have a maze made up of blocks and a character who looks strangely like a cute little robot, walking along with a clicking reminiscent of a clockwork toy. Here's another mission to collect objects and use them to destroy the alien craft and not yourself.

Ignore these similarities though and the game's playable enough but some puzzles could make you resort to trial and error, I think.

The 3D is not quite perfect your character appears to walk on air at times – but that doesn't cause problems.

What does give grief is that some objects are out of sight behind walls, so you have to wander far and wide, with food and water running out and radiators and objects to speed the drain. There's no time to lose as you keep a

the warped minds of Delta 4 could conceive that.... and then turn it into a three part adventure!

Hot on the heels of Bored of the Rings, and now under the eye, if not control of, SilverSoft, comes another sideswipe at a Melbourne House biggie plus Adventure International's outlaw, with the Wizard of Oz and Smurfs through in

Only this time D4 seem to have spread it too thin. The NCPs and Superloos aren't that funny unless they have a real role in the game.

There's also a bonus program, a subjective guide to London which displays an unhealthy preoccupation with Bronski Beatl

But not even a mention of our own Martin Croft will persuade me that this is up to Bored standards.

John Minson



robotic eye open for loaves and mugs. Steering is by the anti-/clockwise turn and forward technique, of which I am not fond, and here it's aggravated by the fact that your robot fails to stop on an interstellar sixpence.

We've also got used to talking Spectrums by now, but this is the first game I've seen where it not only announces itself but your character dies with a blood curdling scream.

I'm sure this will be a hit with all Alien Eighters. . . . or is that lovers?





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fter experimenting with the sounds on the Amstrad, it is not difficult to produce a rhythm unit. The main problem, and the one requiring the most individual attention, is to produce good drum sounds. The best

RHYTHM UNIT

by Ian Waugh

drum noises need careful setting of the noise pitch and the volume envelope.

You will find that the duration of the sound plays a very important part in determining the drum characteristics and if you use more than one envelope you can produce quite a reasonable rhythm unit. This program is one way to approach the design of a rhythm generating program.

When run, the program will play a rock beat and pressing the indicated keys will alter the rhythm.

Program Notes

The program is fairly self-explanatory. Each drum is produced by a combination of parameters – pitch, volume envelope, tone envelope and noise setting – which are read into four arrays in Line 1520. The rhythms are listed in data statements at the end of the program. They are stored as a drum number followed by a duration. The number of each drum is given in the Rem statements between Lines 1550 and 1760. The rhythm patterns are terminated by two Os.

The central While Wend loop between Lines 1080 and 1120 reads the drum number and its duration and plays the sound accordingly. If a new key has been pressed, Line 1090 stores this in beats which is used in Lines 1130 to 1210 to restore to the correct set of rhythm data. At the end of a rhythm pattern, drum will be 0 and the program will fall through Line 1120 to these Lines.

The drum sounds and rhythms would not be out of place in an electro-music composition. Not all the drum sounds have been used in the rhythm patterns. Experiment with the original envelopes to see if you can improve on the sound and construct other drum sounds, too.

The rhythms only play one or two bars before repeating. You can add more variations by adding to the data and, of course, create more rhythms. You could add a facility to change tempo, too, set in Line 1780.

This is an edited extract from Ian Waugh's new book Making music on the Amstrad CPC 464 and 664, available from Sunshine Books, priced £6.95.

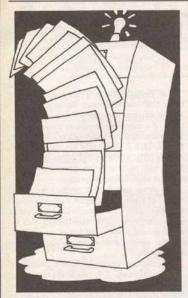
```
1000 REM PROGRAM 7.2

1010 REM Rhythm Unit
1020:
1030 GOSUB 1260:REM Title Page
1040 GOSUB 1400:REM Set Up
1050:

1060 WHILE -1
1078 READ drum,dur
1080 WHILE drum(>0
1090 coms=!NKEY*:IF com$>"" THEN beat$=c
cms
1180 SOUND 1,pitch(drum),dur*tempo,0,ev(
drum),et(drum),noise(drum)
1110 READ drum,dur
1120 WEND
1130 IF beat$="1" THEN RESTORE 1820
1140 IF beat$="2" THEN RESTORE 1890
1150 IF beat$="3" THEN RESTORE 1890
1160 IF beat$="4" THEN RESTORE 1890
1178 IF beat$="4" THEN RESTORE 1910
1178 IF beat$="5" THEN RESTORE 1940
1190 IF beat$="6" THEN RESTORE 1940
1200 IF beat$="9" THEN RESTORE 1940
1210 IF beat$="9" THEN RESTORE 1940
1220 WEND
1240:

1250 REM Title Page
1260 MODE 1
1276 LOCATE 9,3:PRINT "R H Y T H H U N
1 TT:PRINT
1270 PRINT "1) Rock 1"
1270 PRINT "2) Rock 2"
1300 PRINT "3 PRINT "6 FIII 1"
1330 PRINT "4) Mexican Rock"
1330 PRINT "5 FIII 1"
1330 PRINT "6 FIII 2"
1330 PRINT "6 FIII 2"
1330 PRINT "6 Swing"
```

```
1360 PRINT " 9) Cha Cha"
1370 RETURN
1380 :
1390 REM Set Up
1400 ENV 1,1,15,2,5,-3,4
1410 ENV 2,1,15,1,15,-1,2
1420 ENV 3,1,15,1,4,-2,2,7,-1,4
1430 ENV 4,7,2,1,14,-1,4
1440 ENV 5,1,15,1,15,-1,8
1450 ENT 1,1,-100,1,5,25,5
1470 ENT -3,1,4,2,1,-8,2,1,4,2
 1480 :
 1490 DIM pitch(11),ev(11),et(11),noise(1
 1500 REM Store Drum Sounds
1510 FOR n=1 TO 11
1520 READ pitch(n),ev(n),et(n),noise(n)
1530 NEXT n
 1540
 1560 DATA 270,1,2,2
 1570 REM 2 Tom2
 1580 DATA 349,1,2,8
 1590 REM 3 Tom3
1600 DATA 390,1,2,15
 1610 REM 4 Tom4
1620 DATA 440,1,2,20
1630 REM 5 Bass Drum
 1650 REM & Snare
 1660 DATA 180,3,1,13
1670 REM 7 Hi Hat
 1680 DATA 8,4,8,1
1690 REM 8 Cymbal
1700 DATA 16,2,0,1
1710 REM 9 Wood Block
1720 DATA 2,1,0,15
1730 REM 10 Guiro
```



his week more listing (one more to follow next week) – but first, more instructions on how to use the beast once you've got it up and running, starting with Central Menu One.

As explained last week this menu is concerned with defining or loading the data file format. It offers the following options:

1) Open New Data File

This option must be selected by first time users, as there is no data file format

VERSATILE FILE

by Wail Sabbagh

stored on tape or disc. This option requires the following data to be entered:

- 1) Name of data file.
- 2) Number of fields in data file.
- 3) User password (if required).
- 4) Max number of records in data file.
- Name of each field in data file.
 After all data has been entered, the user

After all data has been entered, the user will move to the main menu (primary menu two).

2) Load Data File

This option will load a previously defined file format plus its contents. As in option one, once the data has been loaded, the user will move to the main menu (and unless the file is unprotected, the user password must be entered). The option offers the following choices:

- 1) View disc directory.
- Load data file from tape with an optional choice of loading first file found without any name specified.
- 3) Load data file from disc.
- 4) Return to Central menu.

All errors encountered will be reported on the Com File error screen, control then being returned to Central menu.

The second main menu through which the program now is controlled is Primary Menu Two. This menu is concerned with the manipulation of the data file, consisting of ten options; most of which will move to their own secondary menus. This menu offers the following choices:

1) Enter Next Record 2) Read/Search Menu

This menu is concerned with locating and displaying on the VDU a required item of data in the file. This option offers the following choices:

- 1) Display record by number.
- 2) Read block of file.
- Search through field, such as entering 'car' to locate car racing, carrot or carbon.
- 4) Subsearch through field, such as entering 'ea' to locate ease, reason, bread, or deep sea mining. Option three and four allow a max of 80 characters in the search field.
- 5) Browse through file.
- 6) Return to control menu.

3) Printer Output Menu

This menu requires a CBM printer, or a CBM printer simulator. User port interfaces can be used, but the driver software must be loaded before Com File, and Ram top lowered accordingly. This option offers the following:

- 1) Output 1 record,
- 2) Output block of file.
- 3) Output all file.
- 4) Return To Control menu.

Options three and four offer the choice to exclude certain fields.

That's all for this week. Next time, your final helping of listing, plus more instructions.

```
4200 F BIXOD OF BIX THEN ERSENCED NO DUT OF RENDE*:00TO 18880
4200 PRINT* D. ABHTER RECORD NO TO STRRTE.C*
4200 PRINT* D. ABHTER RECORD NO TO SERVICE*:00TO 18880
4210 PRINT* D. ABHTER RECORD NO TO SERVICE*:00TO 18880
4220 PRINT* D. ABHTER RECORD NO TO SERVICE*:00TO 18880
4230 PRINT* D. ABHTER RECORD NO TO SERVICE*:00TO 18880
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8070 PRINT"

$000 PRINTED

$000 PRINT"

$000 PRINTED

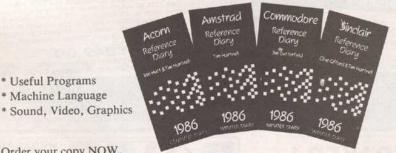
$000 PRINT"

$00
    5510 PRINT
5520 PRINT
5520 PRINTD:
5540 PRINTD:
5540 PRINTD:
5540 PRINTD:
5540 PRINTD:
5540 PRINTD:
5540 PRINTPRINTPRINTFEILD ":X:" IS CRLED ":F#CX)
5550 PRINTPRINTFEILD ":X:" IS CRLED ":F#CX)
5550 PRINTPRINTFEIL GOTO 5575
5553 IF RESTANCE
5570 GOTO 5565
5571 BECTX
5560 PRINTD:
5561 PRINTD:
5561 PRINTD:
5561 PRINTD:
5562 GETRE: [FRHE"N"THEN GOTO 5560
5583 IF RESTANCE
5583 IF RESTANCE
5583 IF RESTANCE
5584 GOTO 5592
5585 PRINTBESSE5
5585 PRINTBESSE5
5585 PRINTBESSE5
5585 PRINTBESSE5
5585 PRINTBESSE5
        5584 POR MATERIAL OF A CHARLES AND A CHARLES
9946 IF BS="YTHEN PRINT"CEM BRSIC V2
9858 GOTO 2008
18800 PRINT"C"
18818 PRINT"COM FILE ERROR SCREEM!"
18830 PRINT"LESSO PRINT"18840 PRINT: PRINT
18840 PRINT: PRINT 18840 PRINT: PRINT 18850 PRINT: PRINT 18850 PRINT: PRINT
```

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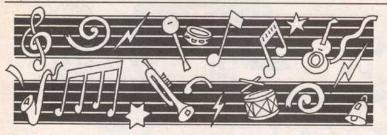
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a,



MUSIC COMPOSER

by Cy Noble

In the listing you will see three provisional addresses for tunes, which are suitable for disc users. Cassette users can use them also but more memory is available if you take them down to &EOO. Type:

*INFO *.* Return (disc users)
*OPT 1,2(RETURN) *CAT(RETURN)

Press PLAY (Cassette users)

This will give you information on the lengths of files, etc so you can pack your tunes in. Adjust tune2adr at tuneladr + length of tune etc.

After running the assembler program, if the checksum is wrong the program is ended and you are asked to check your listing. If it is okay you are asked if you want to save the machine code.

All the addresses needed for reference are printed on screen and you are advised to keep a note of them for use with the machine code later. You are then given the option of loading and playing a tune.

To use the machine code at some later time do as follows:

1) *Run (filename of machine code)

 *Load (tune date file) at tuneladr (RETURN)

 *Load (more tunes) at tunewadr, tune3adr etc.

4) *Load (envelope file) 8CO

Now any of the tunes can be played thus: 5) ?&switch = x(x = tune number)

6) Call & changetune

Note: Break does not destroy the routine. Steps five and six will get it going again. From a machine code program of your own try the following code:

LDA £x:STA switch: JSR changetune

The 'changetune' routine immediately stops the music playing and starts playing the new tune selected.

It wouldn't be difficult to add more tunes; just duplicate the 'music3' routine which goes from Line 2200 to 2250, using 'music(x)' Between lines 2250 and 2260. Then expand the part of changetune

which selects which tune address will be put into the working variable 'tuneadr'.

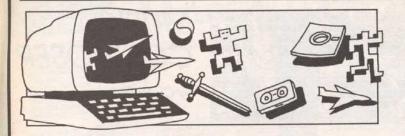
After CMP £3:BEQ music3 at Line 1890 put 1891 CMP £(x):BEQ music(x) 1892 CMP £(x):BEQ music(x) 1892 CMP £(x):BEQ music(x) etc. Don't lose line 1900(BNE finish) as it is an error trap. If you do any of the above you can renumber the program afterwards.

Finally, I've given you a checksum (32658). If your assembler is exactly as written you should get that number. If not there is a mistake somewhere.

When it is fully debugged you can start changing addresses for tunes and machine code, etc. You will get a different checksum (so make the appropriate change in line 240 where it is checked) then, but provided you don't do anything silly it will still work.

The whole suite of programs can be obtained from me at £10 for cassettes, £11.50 for five inch discs or £15 for three inch. Write to me at 323 North Circular Rd, London N13.

```
1740CPX #8
1750BCC flush
 11903
1200, doos
                                                                                                                                                                                                                              \ OS sound buffers
                                                                                                                                                                                                                                                                                                                                 2300NDP:NDF
2310:
                                                                     Increase the count then set up the the osward
  1210INC notecount
1220LDX bufadr
                                                                                                                                                                  1760DEX
                                                                                                                                                                                                                                                                                                                                  2320.notecount
                                                                                                                                                                   1770LDA#0
                                                                                                                                                                                                                                                                                                                                                                              addresses we
  1230LDY bufadr+1
1240LDA #7
1250JSR osword
1260LDA tuneadr
                                                                     routine
to do its
thing
                                                                                                                                                                  1780.flushbufter
                                                                                                                                                                                                                                                                                                                                   2340.howmany
2350NDP \ use to store
                                                                                                                                                                  1790STA buffer, X
                                                                                                                                                                1790STA buffer, X 1800BCX 1810BPL flushbuffer 1820EDA Switch 1830BED finish 1840CHP #1 1850BED munic1 1850BED munic2 1680CHP #2 1680CHP #3 1690CHP #3 1890EDB munic2
                                                                                                                                                                                                                             \ as well as our
\ own private one
 1250JSR osword | thing | 1250LDR tuneadr | Now we increase | 1270CLC | the pointers to | 1290STA tuneadr | the next note | 1310INC tuneadr+1 | table then | 1250SRC | 
                                                                                                                                                                                                                                                                                                                                  2360, tempadr
                                                                                                                                                                                                                                                                                                                                  2370NDP
                                                                                                                                                                                                                                                                                                                                                                         \ variables
                                                                                                                                                                                                                                                                                                                                  2380NDP
2390, switch
                                                                                                                                                                                                                                   Now check to so
which tune is i
be played and
writ if switch
is zero or set
up pointers in
music! music?
                                                                                                                                                                                                                                                                                                                                                                          \ Note tempadr
                                                                                                                                                                                                                                                                                                                                  2410RTS
                                                                                                                                                                                                                                                                                                                                                                   1 is two bytes
                                                                                                                                                                                                                                                                                                                               2450574 5230 \ Intercept event 2450574 5230 \ vector and store it 2470574 5231 \ in spare vector 2470574 5231 \ address then 254001DA Bevent BDD 256 2490574 5220 \ vediran
     320. jexp
                                                               \ expand the data out
 1330JBR expand \ it in our buffer
1340JMP checkbuffer \ go check again
                                                                                                                                                                                                                                    etc.
Switch boob trap.
                                                  \ This routine takes \ the corrent 4 bytes \ expands them to \ 8 bytes & puts them dri, Y \ in our buffer
  1350. expand
  1360LDY#0
                                                                                                                                                                  1910.music1
  1370LDX#0
                                                                                                                                                                 1920LDA #tuneladr
                                                                                                                                                                                                                                                                                                                                24903TA 2220 \ redirect it to our 2500LDA Bevent DIV 256 221 \ routine. 2510BTA 3221 \ routine. 2520LDA Beufer MOD256 2530STA bufair 2540LDA Beufer DIV256 2550STA bufair 2540LDA Beufer DIV256
  1380.exp1 \8 1390LDA (tuneadr), Y
                                                                                                                                                                  1930STA tuneadr \ addresses
1930STA tuneadr DIV256
1950STA tuneadr+1 \ into point
1960:
                                                                              asword will
                                                                                                                                                                                                                             \ into pointers.
                                                   \ where osword will
\ find them in the
 1410BEC nex
                                                                                                                                                                                                                                   Music1 music2 etc.
#11 come back to
                                                                                                                                                                  1970. dunchange
  1420LSRA
                                                   \ form expected
\ The first byte is the
\ tricky one as it was
\ originally 2 bytes
                                                                                                                                                                1980LDY #0
1990STY notecount \
2000LDA (tuneadr),
2010STA howmany
  1430LSRA
                                                                                                                                                                                                                                   here so that we 
\ can set up the 
new note count 
and keep a copy 
of the address
                                                                                                                                                                                                                                                                                                                                 25505TA hufadril
2560LDA 80 \ This will disable
25705TA switch \ events until we
2580JSR changetune \ are ready
 1440LBBA
 1450LSRA
1460.nem \ This byte is split
1470STA buffer+1,X \ into two four
                                                                                                                                                                 2020LDA tuneadr
2030STA tempadr
1480LDA (tuneadr),Y \ bit mumbers & 1490AND %&F \ expanded to the 1500STA buffer,X \ original byte 1510INY \ 0.01\ need a zero
                                                                                                                                                                                                                                                                                                                                   2590CL1
                                                                                                                                                                                                                                  or the address
pointers for when
we need to reset
the working ones
Prepare our buffer
Now enable the
event again so the
music will play
                                                                                                                                                                  2040LDA tuneadr+1
                                                                                                                                                                                                                                                                                                                                 2600, endcode: RTS
                                                                                                                                                                  2050STA tempadr+1
                                                                                                                                                                                                                                                                                                                                  26103
                                                                                                                                                                2050STA tempadr
2060INC tuneadr
2070JSR expand
2080LDA #14
                                                                                                        three
                                                                                                                                                                                                                                                                                                                                 2630ENDPROD
                                                                                                                                                                                                                                                                                                                                  2640:
                                                                                                                                                                                                                                                                                                                                 2650DEFFROCquery
2660PRINT "Ckay ? (Y/N)"
2670REPEAT
                                                                                                                                                                 2090LDX #4
1540.exp2
1550LDA (tuneadr),Y
                                                                                                                                                                2100JSR One; ...
2110.finish
2120RTB \ and go back where
\ called from.
                                                                                                                                                                                                                                                                                                                                2680CX=INSTR("NnYy",GET#)
2690UNTILCX>0
2700ENDPROC
2710:
 1560STA buffer,X
1570INX
1580LDAWO
                                                     stuck in the most
 1590STA buffer, X
                                                                                                                                                                2150LDA #tune2adr MOD256
2160STA tuneadr
2170LDA #tune2adr DIV256
                                             1400 INX
                                                                                                                                                                                                                                                                                                                                 2720DEFPROCeassette(Cs)
1610INY
 1620CPX#8
1630BNE exp2
                                                                                                                                                                2180STA tuneadr+1
2190BNE dunchange
                                                                                                                                                                                                                                                                                                                                   2740PRINT"Insert disc/cassette & press "CHR$
                                                                                                                                                                                                                                                                                                                                 2750PRINT Cassette motor on if rewind requ
1640RTS
                                                                                                                                                                22700.music3
2210LDA #tune3adr HOD256
2220STA tuneadr
2230LDA #tune3adr DIV256
1650:
1650:
1660.changetune
1670LDA #13
1680LDX #4
1690JSR osbyte
1700LDA #21
1710LDX #4
1730.chimb JBR:
                                                             \ This routine will 
\ disable the 
\ event then
                                                                                                                                                                                                                                                                                                                                 2760ENDPROD
                                                                                                                                                                                                                                                                                                                                27400EFFNChecksus
27700EFFNChecksus
2760check=0
2790FDRAX=interupt TO endcode
2800check=check+7AX
2810NEXT
                                                                                                                                                                2240STA tuneadr+1
2250BNE dunchange
2260.buffer
                 DX 84
flush JSR debyte
\ flush all the
                                                                                                                                                                2270NOP: NOF
1720.fli
1730INX
                                                                                                                                                                2280NOP: NOF
                                                                                                                                                                 2290NOP+NOE
```



VILBUR

by TA Bartley

Popular proudly his week, present you with the adventures of Wilbur - a commercial quality, machine code game with a difference . . . you have to type it in before you play it.

Every week from now 'till Christmas, we will be printing a loader, checksum and memory dump . . . at the end of which you will have 20 screens of arcade action, as you can see from the screen dump. The game itself includes full instructions and can be played via joystick or keyboard.

For this week, type in the loader program and enter the data as prompted - at the end of the session, if the 'Data OK' message appears, save the code with Save "wilbur" Code 38400, 2850.

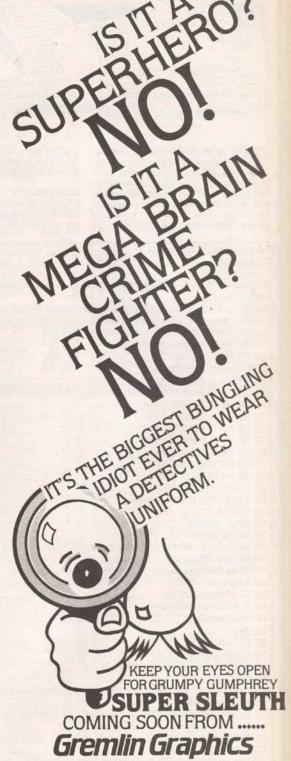
If you don't feel up to all that typing (20K of code) copies can be obtained author. Send £1.50 to T A Bratley, 81 Beverley Crescent, Grimsby, South Humberside, DN32 9TJ.

如野村城村—到到村子专业社员后的政党地位的联联对为政众才总是国际党场力政府政府政府政府政府政府对战场对对城市等了城场发现的标识过和场站的影响力发行政政治和政治力员和党员的政治政治, 加州克州市(1961年15年),为1970年,1980年,1 POKE 23609,50 LET T=0: FOR N=38400 TO 41249 PRINT "TYPE NEXT NUMBER": INPUT J: PRINT : POKE N,J: LET T=T+J: NEXT N IF T<>289437 THEN PRINT "DATA ERROR -700 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | IF T=289437 THEN PRINT "DATA OK" | 188 | 125 | 2006 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 2007 | 20 17 | 244 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 1 SHAM

00025

SCORE DD220 HISCORE







 SIMPLE DATA ENTRY All team names are in the program. Simply type in the reference numbers from the screen. Or use FIXGEN to produce fixture list automatically (see below).

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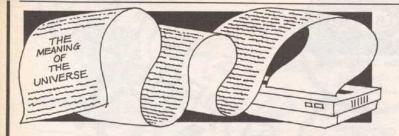
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RANDOM WORDS

by Richard Hoptroff

he ravenous poet didn't like being hairy when their coffee percolator crucified the massive glass of water but the kitten suddenly searched in vain for a brick. Then, the bolt of lightning stole the three-legged parrot but Mrs Thatcher frantically smelled the electronic kitchen sink. He

created the glass of water. A primeval lump slowly hit it with the stupid, red striped poet – but then, why not?

Back to reality

Like the Infinite Number of Monkeys theory, if a computer was made to print out an awful lot of random letters, it would eventually produce the script for Shakespeare's Hamlet. This is an adaptation of such a program that churns out very long, random stories. They lack a plot, perhaps, but often turn out to be very, very funny.

Next week, the program notes plus the remainder of the listing.

10 Ltn=34:Snn=10:anf=0:gtf=0:Two=1:phf=0 15 RANDOMISE 20 RESTORE 40 NCj=8:NSj=7:NPs=8:NNb=2:NNn=52:NVb=43:NAj=46:NCm=5:NAv=8:NDt=1 60 DIM cj\$(NCj,16),Sj\$(NSj,30),Ps\$(NPs,12),Nb\$(NNb,6),Nn\$(NNn,46) , Vb\$(NVb, 44), Aj\$(NAj, 42), Cm\$(NCm, 20), Av\$(NAv, 30), Qt\$(NQt, 60), Ph\$(Nph,54), Wy\$ (Nwy,64) 80 FOR n=0 TO NCj:READ cj\$(n) 100 FOR n=0 TO NSj:READ Sj\$(n) 120 FOR n=0 TO NPs:READ Ps\$(n) 140 FOR n=0 TD NNb: READ Nb\$(n) 160 FOR n=0 TO NNn: READ Nn\$(n) 180 FOR n=0 TO NVb:READ Vb\$(n) 200 FOR n=0 TO NAj:READ Aj\$(n) 220 FOR n=0 TO NCm: READ Cm\$(n) 230 FOR n=0 TO NAV: READ Av\$(n) 240 FOR n=0 TO NOt: READ Ot\$(n) 250 FOR n=0 TO Nph: READ Ph\$(n) 251 FOR n=0 TO Nwy: READ Wy\$(n) 260 Ttle\$="Sargon the Demented" 280 REMark CLOSE #1: OPEN #1, serir 300 WIDTH BO 500 REPeat Paragraph 520 Snt=RND(10)+RND(10) 540 Sentance : IF INKEY\$(0)()"" :EXIT Paragraph 570 END REPeat Paragraph 580 DEFine PROCedure Sentance 600 Cpf=1:cjf=0 610 IF RND(6)=6:60 TO 740 620 IF RND(5)=1:Comment:Cof=0 640 Two=1: Nown: Cof=0 660 Vereb 680 IF Two=2: Nown 700 IF cif=1:cif=0:60 TO 640 710 phf=0:qtf=0:IF RND(10)=1:qtf=1:60 TO 721 720 RETurn 721 Tp=RND(NQt):qtf=1:Tmp\$='"' & Qt\$(Tp):IF Tp>Snn:Tmp\$=Tmp\$ & '" 1160 DEFine PROCedure Finish ,':PRINT !Tap\$! :60 TO 729 722 IF Tap\$((LEN(Tap\$)-1) TO)=' a':Tap\$=Tap\$(1 TO (LEN(Tap\$)-2)): 1175 cjf=1

730 IF cjf=1:cjf=0:60 TO 640 735 RETurn 740 Cpf=1:Two=1:phf=1:Nown 750 PRINT !Ph\$(RND(Nph))!:IF RND(9)=5:PRINT !'a bit'!:60 TO 760 755 IF RND(8)=4:PRINT !'half'! 760 Finish: Tmp\$=Aj\$(RND(NAj)) & fin\$:PRINT !Tmp\$! 770 IF cjf=1:cjf=0:60 TO 640 780 END DEFine 790 DEFine PROCedure Comment 800 Caps(Cm*(RND(NCm))):ans*=ans* & ',':PRINT !ans*! 820 END DEFine 840 DEFine PROCedure Nown 845 IF qtf=1:60 TO 970 850 IF Two=2 OR phf=1:60 TO 880 857 IF RND(1 TO 12))10:PRINT !Ttle\$!:RETurn 860 IF RND(5)(3 :Caps(Sj\$(RND(NSj))):PRINT !ans\$!:RETurn 880 IF RND(6)(6: Numb: GD TO 970 900 IF RND (5) <4 920 Numb: Tmp\$=Nn\$(RND(NNn)) & "'s":An(Tmp\$) 940 ELSE Caps(Ps\$(RND(NPs))):PRINT !ans\$! 960 END IF 970 IF RND(5))2 :60 TO 1065 980 REPeat Adi 1000 Tmp\$=Aj\$(RND(NAj)) 1020 IF RND(10)>1:An(Tmp\$) :EXIT Adj 1040 Tmp\$=Tmp\$ % ",":An(Tmp\$) 1060 END REPeat Adj 1065 IF qtf=1:Tmp\$=Nn\$(RND(NNn)) & '.", ':An(Tmp\$):RETurn 1070 IF Two=2:Finish:Tmp\$=Nn\$(RND(NNn)) & fin\$:An(Tmp\$):RETurn 1080 An (Nn\$ (RND (NNn))) 1100 END DEFine 1110 DEFine PROCedure Vereb 1120 IF RND(5)>2 :PRINT !Av\$(RND(NAv))! 1130 Two=2:Tp=RND(NVb):IF Tp>Ltn :Finish:Two=1:Tmp\$=Vb\$(Tp) & fin \$:PRINT !Tmp\$!:RETurn 1140 PRINT !Vb\$(To)! 1150 END DEFine 1170 IF RND(35)=1:fin\$='!':RETurn 1180 IF RND(44)=1:fin\$=":":RETurn 1190 IF RND(43)=1:fin\$=';':RETurn 1200 IF RND(3)=1:fin\$=' ' & cj\$(RND(NCj)):RETurn 1205 cjf=0:IF RND(10)=7 :fin\$=Wy\$(RND(Nwy)):RETurn

723 PRINT !Tmp\$!

725 Two=1: atf=1: Nown

729 Two=1:qtf=0:Nown:PRINT !"said to"!:Two=2:Nown

Name: Roy Carter

Chief programmer for Gargoyle Games

I began in 1970 as a programmer working for a business firm on the ICL 1901 - it was called a mainframe because it had six K. I learnt programming via night classes, studying Fortran at Dudley Tech then I started to use Plan - that was the first Assembly language I worked with and really it was the basis of all my other programming. Assembly languages are all pretty much the same except for matters of detail.

I write all the programs for Gargoyle on CP/M machines using the Microsoft



M80 Assembler, I'm also impressed with Prospero Pascal which I'll start using for programming if it becomes practical.

There are other programmers I admire, no particular names though, I like much of what Ultimate's done until the more recent stuff and Denton Designs has been consistently good. Really it's not a case of technical cleverness so much as good ideas - there are any number of programming teams who could have written, in a purely coding sense, games like Knight Lore, but it took Ultimate to come up with the ideas.

In my own programming I think the biggest achievement so far has been to move large animated objects around smoothly and at speed. I don't think anyone has equalled the animation of Tir Na Nog yet. My greatest programming challenge involves artificial intelligence and expert systems. It's a subject that has interested me for ages and I've been to a number of seminars on the subject of AI.

I'd like to create program so realistic it would be like talking to a real person.

NAME: Roy Carter

AGE: 32

FAVOURITE GAMES:

Pacman

Sorcery (Virgin's Amstrad version) **Knight** Lore

I liked the original Game of Life as

FAVOURITE MACHINES:

I'd say the Spectrum for games. For those people who want to do some programming (and most never do) I'd rate the Amstrad highly.

SOFTOGRAPHY:

Ad Astra, Tir Na Nog, Dun Darach, Marsport, Swevo's World and a whole load of business programs.

HOBBIES:

I read a lot mainly Science Fiction, particularly Jeff Vance, Asimov, Poel Anderson and Piers Anthony, I've also been reading quite a bit of Agatha Christie recently, although I'd rather you didn't mention that.

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do the rest.

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Bytes & Pieces

Character Set on Spectrum

by G Wearmouth

This program is short, but interesting. It takes about one minute to design a character font based on the Spectrum's original, but thicker. The listing was made after the program was run, and I think you'll agree it's very legible.

```
1 REM any SPECTRUM
2 REM THIS PROGRAM CREATES, AT
ADDRESS a, AN EMPHASISED VERSION
OF THE ROM CHARACTER FONT
EACH CHARACTER IS PRINTED AT
21,0 THEN THICKENED (LINE 60).
LINE 80 TRANSFERS THE SCREEN -
BYTES TO RODRESS a.
3 REM DURRTION: 1 HINUTE
6 REM
7 REM
                                                                                                                                                                               PRINT AT 21,0; CHR$ :
FOR y=7 TO 0 STEP -1
FOR x=6 TO 0 STEP -1
IF POINT (x,y) THEN PLOT x+
                                                                                                                                                                70 NEXT X 80 POKE 3, PEEK (22432-256±9) 90 LET a=a+1 100 NEXT 9 110 NEXT 9 120 POKE 23607,123 130 BORDER 1: PAPER 1: INK 6: C
         1 3 REM DURRITION : 1 HINUIE
6 REM
7 REM
18 REM
18 CLEAR 31743: LET a=31744
20 POR i=32 TO 127
                                                                                                                                                          LS
140 LIST
```

```
20
                        Three Dimensional Sine Wave.
               ' Written By M.J. Evans. for PCW.
  40
  60
70 .

80 DEFINT x,y,s,m

90 CLEAR:DIM t(640):CLS:MODE 1:INK 1,26:PEN 1:PAPER 0:INK 2,20:INK 3,6:INK 0,0:B

ORDER 0:MODE 1:INPUT "Mode (1 or 2)*;mo

100 IF mo=1 0R mo=2 THEN MODE mo:GOTO 110

110 INPUT "Size of humps (50):*,si:INPUT "Amount of humps (3):*;d:d=((2*PI/15)/2
)*d:INPUT "Horizontal Step (.05):*,si:INPUT "Back Step (.5):*,bs:CLS:w=0

130 FOR n=0 TO 15 STEP bs:nd=n*din1=n*din1=2=n*Z0
140 FOR m=0 TO 15 STEP st:y=STIN(m*d*d=3*SIN(nd+d*s1*si+m*10+n1

150 q=320+n2=m*Z0:x=320-n2+m*Z0:IF y)t(x) THEN PLOT x,y:PLOT q,y:t(x)=y

140 FOR m=0 TO 15 STEP st:y=STIN(m*d*d=3*SIN(nd+d*s1*si+m*10+n1

150 q=320+n2=m*Z0:x=320-n2+m*Z0:IF y)t(x) THEN PLOT x,y:PLOT q,y:t(x)=y

140 FOR m n.
 160 NEXT m,n
170 ENT -1,10,-10,1,1,100,1
180 SOUND 2,140,32767,15,.1
```

3D Sine Wave on Amstrad

by Martin Evans

This program will plot on the screen a 3D sine wave. Suggested values for inputs have been entered as brackets, although other values may be chosen. The first input of interest is the Sine Addition. This will determine where along the sine wave to start plotting. The size of hump relates to its amplitude. The hump input applies to both halves of the

Shadow Graphics on BBC

by T Richardson

This is a simple shadow graphics routine which can be incorporated in almost any program in basic. It is useful to give a 3D-title effect, and is very short.

Structure

0-110 Demo 130 Joins cursors

140-160 Select first colour moves and

170-190 Select second colour moves X+dis, Y+dis then prints the text

200 Separates text and graphics cursors

```
39 REM *** SHADOW GRAPHICS
  40 REM *** (C)copyright 1985
 70 VDU23/8202/0/0/0/0/
80PROCshadow("SHRDOW GRAPHICS",189,1889,4,1,6)
90PROCshadow("(C)copyright 1985",180,980,7,1,6)
180PROCshadow("by T.N.RICHARDSON",188,888,5,3,6)
189FROCshadow("GULI=B/GROUND COL",100,650,4,7,6)
129FROCshadow("COLI=B/GROUND COL",100,650,4,7,6)
139FROCshadow("COLI=B/GROUND COL",100,650,4,7,6)
139FROCshadow("DIS=SFACIND",100,550,4,7,6)
159FROCshadow("DIS=SFACIND",100,550,4,7,6)
159FROCshadow("X,Y=GRAPHICS POS",100,500,4,7,6)
179DEF PROCshadow(As, X, Y, COL1, COL2, DIS) 220MOYEX-DIS, Y+DIS
1807005
                                                                          230GCOL0, COL2
190MOVE X,Y
200GCOL0,COL1
210PRINTAS
                                                                          240PRINTES
                                                                          250VDU4
                                                                          260ENDPROC
```

SPRITE CHECKING FOR COLLISIONS

10 CODE:

IN A, (2) BIT 5, A ; CHECK FOR JR NZ, YES COLLISION SUB A ; LET A=0 JP END

YES: LD A, 255 END: LD (60000), A RET

SYMBOLS:

Collision Detect on Memotech

by Martin Joyce

The program works by checking the appropriate bit of the Status Register from the VDP (Video Display Processor).

It is relocatable anywhere in memory and should be entered into your own program using the Memotech's built-in Assembler. If the program is entered into, say, Line 10 of your program, the next line should read: If Peek (60000) = 255 Then Goto X where X is the line number the program to if two or more sprites collide.

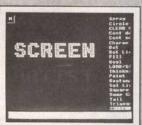
It may be necessary to change the address 60000 to another suitable address if the program corrupts one byte of the VRAM (Video Ram).

TOUCHPAD SCREENARTIST

SCREEN ARTIST

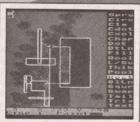
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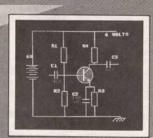
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The best name in memory Pines Trading Estate, Broad Street, Guildford, GU3 3BH, Telephone: Guildford (0483) 503121.

Arcade Avenue



Public domain

hris Wood of Chameleon Software has written a justifiably cross letter to say that Nicholas Mew's Amstrad Jet Set Willy program in issue 41 was plagarised from a routine he wrote for Amstrad User. This has been confirmed by a letter from 'illegible' of Leeds who points out that the routine doesn't work in exactly the same way that the one in AU doesn't.

Apologies to Chris Wood and all at AU for this.

It is difficult to claim 'ownership' of things such as pokes and hints which are really public domain, but what is inexcuseable is that an entire program such as Chris's, which has had hours of work put into it, is ripped off in this way.

III-fated

As for the fact of it not working, the routine arrived just in time to get squeezed into our JSW week and since it came as a listing on tape, it was just printed out into the column. Can you imagine someone going to the trouble of typing a program out from a magazine, changing the copyright names, etc, and not even trying to see if it works! If anyone else has such a routine handy, do me a favour and send it to someone else.

For 'illegible' of Leeds who complains that he is still looking for an Amstrad JSW routine that works, can I remind you that we printed one weeks before Nicholas's ill-fated letter arrived. Check your back issues.

The Spectrum version of JSW 2 pokes, issue 41, are also ill-fated in that there was a typo – the first number on line 70 should be 221 rather than 211. Randomize Usr 28672 to start.

One thing that has been printed in other magazines is the following tip for Graham Gooch's Test Cricket on the 64, but Audiogenic specifically asked that we try and spread it to as many people as possible.

On the ropes

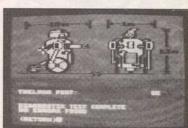
It is a routine to let you save a team you have created to tape or disc. Load and run the Select program and enter the teams. At the end when you are returned to Basic. Poke 43.0: Poke 44, 192: Poke 45.40: Poke 46,194: Poke 56,200: CLR: Save "TEAMS" (add ",8" if using disc). When saved turn the computer off and on again. Enter Load "TEAMS",1, or "TEAMS", 8, 1. When the teams have loaded type New

needs emerald scarab. That's all for now in case we spoil the game. Very careful mapping is essential as the unit cursor disappears towards the end.

By the way, the location of the test site is. \$\\$\frac{1}{2}\text{\$\frac{1}\text{\$\frac{1}{2}\text{\$\frac{1}{2}\text{\$\frac{1}{2}\text{\$\frac{1}{2}\text{\$\frac{1}{2}\text{\$\frac{1}{2}\text{\$\frac{1}{2}\text{\$\frac{1}{2}\text{\$\frac{1}{2}\text{\$\frac{1}{2}\text{\$\frac{1}{2}\text{\$\frac{1}{2}\text{\$\frac{1}{2}\text{\$\frac{1}{2}\text{\$\frac{1}{2}\text{\$\frac{1}{2}\text{\$\frac{1}{2}\text{\$\frac{1}\text{\$\frac{1}\text{\$\frac{1}\text{\$\frac{1}{2}\text{\$\frac{1}\text{\$\frac{1}{2}\text{\$\frac{1}\text{\$\frac{1}\text{\$\frac{1}\text{\$\frac{1}\text{\$\frac{1}\text{\$\frac{1}\text{\$\frac{1}\text{\$\frac{1}\text{\$\frac{1}\text{\$\frac{1}\text{\$\frac{1}\text{\$\frac{1}\text{\$\frac{1}\text{\$\frac{1}\text{\$\frac{1}\text{\$\frac

Actually Hacker is a disappointment; only a little way into the game it loses almost all resemblance to

what it is supposed to be, ie, an unknown computer system. The older game, System 15000 was much better in that sense. Let's have some comments and tips please, it



it loses almost all Hacker from Activision

lives. Here are some teleport names to start you off... Verox, Ramix, Kyzia, Delta, Soniq, Ultra, Amiga. As for the one near the cave, there is a clue in the gem itself. Dominic recommends Starquake, but says it is too expensive.

need are some really useful

finished Starquake on No-

vember 3rd with 225,395 and

52% and with a surplus of 20

Dominic Wake of Farnham

tips to get people started.

Kevin Young, writing about the Amstrad version of Exploding Fist, also complains about paying a "ridiculous £9.95". Kevin took his game back to Smiths, disgusted by the lack of music or changing backdrops on this version.

Gyroscope new from Melbourne House

and load the main game.

Congratulations to Damian Craddock for finishing Barry McGuigan's Boxing. His tip is to make your boxer a bulldog which traps the other fighter on the ropes giving you free pot shots at his head. If he covers up, hit his body. Anyone who wants tips on other C64 games, especially Spy v Spy II, Beach Head, Raid, Hunchback, Matrix, can write to Damian at 8 Tennyson Road, Bedford, MK40 35B (enclose an SAE).

Congratulations to Brian Thompson of Beckenham for finishing Hacker; here are a few tips - Switzerland needs cash, England needs camera, Greece needs "Tut", Egypt needs chronometer, India should be just the thing for readers of this column.

Brian has also scored 45% on *Marsport*, tips badly needed! Gargoyle are releasing their brilliant games at a much faster rate than we can solve the things.

Unique quality

Incidentally can anyone help on the new Sandy White game, I of the Mask? In case you haven't seen it it has the most fantastic graphics to date on the Spectrum, of a unique and atmospheric quality that puts the author firmly into the top league of Spectrum programmers. However, the general opinion seems

Renaissance

My own feeling is that the games are pricey, but I am particularly impressed by the recent renaissance of Melbourne House arcade games and I rate Starion, Fist and Gyroscope among the few releases that are really worth the money. However, I do agree that the poor deal Amstrad owners got deserves plenty of complaining letters. It's still a brilliant game and we will try and find room for some tips soon.

Finally good new has just come in from Chris Allen who has managed to write a compact routine for getting infinite lives in Fairlight (you may remember it has one of the most convoluted loaders ever seen). Don't miss next week's issue for a copy of this! The other good news is that Mr A G Soloman of Bridgend has finished Fairlight and has sent in the complete solution, which I hope we will find space to print soon.

Tony Kendle

Peek & Poke



Specialist questions

Simon James of Boston, Lincs, writes:

Q I would be grateful if you could answer two questions concerning the Atari XL series. Firstly, do you know of any specialist Atari magazines? Secondly, are there any books giving details of the operating system, system variables, how to use the sound and graphics chips from machine code, etc, for the Atari 800XL?

There are two magazines: Atari User, published by Database Publications and Page 6, the Atari group's magazine. Database is at 68 Chester Road, Hazel Grove, Stockport SK7 5NY, and Page 6 at PO Box 54, Stafford, ST16 IDR.

As far as books are concerned there are quite a number already that cover the areas you mention, but no one book that covers all of them. I suggest that you try Software Express which carries quite a lot of Atari books in stock. It can be contacted at 31 Stoneyhurst Road, Erdington, Birmingham B24 8HA.

Upgraded Spectrum

Richard Gompels of Cobham, Surrey, writes:

I own a ZX Spectrum with a light pen, interface 2 printer, joystick etc, and wish to upgrade. I do not wish to exceed the £500 mark. Can you help me decide? Please answer this

letter; it is the fourth time I've written!

A Well, I suppose I should start by saying upgrade for what reason? If you feel that you have outgrown the Spectrum and want to get down to more serious 'business type' programming that is one thing, but if you simply want some hardware to add to your existing system than the than the supplemental to the say the say that is one thing.

Taking the new machine angle first... there is no real upgrade path for the Spectrum yet, no compatible bigger, faster machine is available. So whatever you buy, your existing software will not be transferable. I must confess that I like the idea behind the new mini-disc Amstrad which is well within your price range and will develop into the first of a family of machines, which is what I think you want.

The second possibility is to simply add further to your Spectrum. You might try microdrives or a wafadrive, perhaps an RS232 interface and modem.

Elegant

Knud Thomsen Samsogade 83, 8000 Aarhus C, Denmark, writes:

With reference to your answer to a reader from Ludlow in Vol 4 No 15, I would like to point out that the 'Bin' problem can be circumvented as follows:

20 Print Val (Chr\$ 196 - Str\$

30 Goto 10

The variable a is first converted by Str\$, since Bin only works on explicit numbers.

A I have received a number of letters pointing out elegant ways of solving this problem (converting decimal to Binary).

Most of the letters also criticise the answer I gave for being 'contrived'. I would only say in my defence that I never claim that my answers are the best solution, only that they work!

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Tony Bridge's Adventure Corner



Password

ne of the best-selling Quill'd adventures, and deservedly so, is Bored of the Rings, out of Silversoft by Delta 4. It is not particularly tough or brainteasing, although of course the program will give you plenty to think about – but, like other Delta 4 adventures, the scenario is well-written and consistently witty.

Those of you who have enjoyed Bored should also take a look at the earlier programs from this company, Quest for the Holy Joystick and the sequel Return of the Holy Joystick, two brilliant examples of how far The Quill can be stretched. The latest adventure is Robin of Sherlock, released as you read these words.

The reason for me mentioning Bored now is to offer some help. Soon after my review of the game, back in May of this year, I mentioned a reader who was stuck near the start and asking for a clue. This was only a few moves into the adventure, and actually one of the very first problems, so I should have been able to answer it. For weeks after, my mailbag was full or derisive letters questioning my adventuring ability. I thought that I had made it clear in my review that I had worked through some of the latter stages, having been let in on the secret of the passwords to the second and third parts.

But for anyone still trapped, like Ian Nicholis, by the Willow Tree, Cry Help, which Fordo will receive in the form of Tim Bumbadil, who rescues him.

I received just three letters which didn't carp on about my lack of expertise, one from John Wilson of Rochdale, who is an adventure of indefatigable stamina and resource, always willing to let me in on his hard-won knowledge, and the others from Nic Ford of 25 Canada Road, Cobham, Surrey KT11 2BB, and Mr R Atkins. He lives at 1, The Paddocks, Potton, Nr. Sandy, Beds SG19 2OD, and is a mine of information about the game and quite willing to help sort out problems.

Since then, however, my mailbag has been full of letters asking for help, and in fact Bored has figured more than almost any other adventure in this regard. Peter Martin of Cyprus was stuck in the Willow Tree but has since solved that problem, only to come up against the next one, that posed by the bodypoppin' Barrow Wight. If you wait around long enough, Peter, he will eventually give you a clue which will come in handy at a later stage. Then go across the Downs again, West West North and East to the Inn

Scene-setting

One of the trademarks of The Quill is the way in which pictures are drawn only on your first visit to a location, and Mark Bennison draws our attention to the fact that this can be used in solving mazes – just find those places in which a graphic appears, thus enabling you to draw a map. This is general informa-

tion, though, as you will have a map at the maze in Part Two if you do things in the right order!

Part One is not too hard, being basically an exercise in scene-setting – all that must be done is a lot of hanging about. Two conditions have to be met in order to finish this section; you must ensure that Aragont remains with you, and pick up the object mentioned by the Breakdancing Barrow Wight.

Plain sailing

I won't tell you where this is, it's not hidden, but you must have it and use it in the last location. If you get

- get this and examine it to give you a clue to the method of dealing with Fwankie, Vulture Club and the rest of them. After the maze, you will eventually end up in the de Lorean lands. If you've been help frantically typing throughout the adventure, it is here that you'll find location 17 and the clue that you've been waiting for - just remember good old hippy Tim and what he gave you!

As for Part Three, well, space doesn't permit more than just a brief mention of the problem that has been foxing a lot of people, that of opening the microwave. This is actually the final action, and you simply have to Open Box (after cutting the string with

What was Fordo to do ?

*S

However, Fordo couldn't go in

that direction.

Bimbo stood up on his chair at the far end of the tent. The noise quietened down to a dult roar.
"My fellow boggits", he began. There was a chorus of belching from the fellow boggits. As much as I'd love to stay and annoy you, I can't. So, goodbye!"
There was a large explosion (which killed several of the guests) and when the smoke cleared, Bimbo was gone!
Fordo wandered outside.

Bored of the Rings

through the problem here (it's not too difficult), you'll be given the password to the next part.

Part two is, I think, much more interesting than the preceding part - the puzzles are more demanding, the responses from the program are more amusing and the graphics, too, are better. The first problem, however - how to get the map from the disreputable pixie - is plain sailing as long as one rememadventuring bers one's history and uses the vending machine properly (Examine, as always, works wonders here). This should give you the wherewithall to gain the necessary map of the ubiquitous maze, which is not far away now.

Although you can indeed map the maze, the final exit doesn't exist without the pixie's map.

Somewhere in the maze you will come across a poster

the Magic Scissors) and then Put Ring In Microwave.

Bear in mind that there may be differences between the original version from Delta 4 and the later Silversoft release.

Upside down

I hope that I can return to Bored of the Rings at a later date. The problems are not massively difficult, but the way in which Fergus McNeill, the author, has conjured the atmosphere of Middle Earth, albeit a rather upside-down Middle Earth, almost disguises the limitations of The Quill, and is a joy to sit and play.

There are lots of things that can be done by way of light relief (try saying hello to the crows and wolves, or killing the Map Pixie), and the adventure is great entertainment.

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ADVENTURE

Return to Eden on Commodore 64. How do you make Graunch the Golem ask you his riddles? John Harnett, 22 Convent Street, Castleisland, Co Kerry, Eire.

Kentilla on Spectrum. How do I pass the death beetles? How do you use the blue mushrooms? What is the significance of the silver dagger? J A Lockerby, 44 Hyde Place, Aylesham, Canterbury, Kent CT3 3AL.

Eurekal on Spectrum. Adventure 1: How do you get past the brachiosaurus? Adventure S: Where do I find 'a ladies colours' and how do I get a white charger? I Cameron. 8 Windy Hill, Hutton, Brentwood, Essex. Fourth Protocol on Spectrum. I have looked at sixteen files now – are there any more? I cannot decode Pasternak's dying word. How do I stop Stanislav defecting (or help him!)? Jenny Tyack, 42 St Ruald's Close, Wallingford, Oxon OXIO OXE.

Jewels of Babylon on Amstrad. How do I get out of the swop? How do I kill the crab? Stephen Long, 77 Chiltern Gardens, Dawley, Telford, Shropshire, TP4 2OH.

Arrow of Death Part 2 on Spectrum. I can't wake up Arnid the Fletcher. Carsten Muselliach, Kombergerstr., 119A D4130 Moers I, West Germany. Forest at World's End on Amstrad. What do you do when you get to the witches hove!? Gary Law, 5 Ketton

Close, Luton, Beds.
Spiderman on Atari 800. How do I
wake Doc Conners? How do I get out
of the dust maze? Stephen Prince, 13
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Dungeon Adventure on Commodore 64. What do i do when I have freed the dwarf from the skeletons? paul Wells, 472 Limes Avenu, Chiqwell, Essex.

The Fourth Protocol on Commodore 64. Where is the battery? R Smith, 431 Uttoxeter New Road, Derby DF3 3HY

Adventure on Electron. I can't find the princess? What are the magic words? I can't pass the giant rat blocking the door. W Seamus Hurley, 464 Pearse Villas, Sallynoggin, Co Dublin, Ireland.

The Hobbit on Commodore 64. I have the gold ring and I am out of the goblin's caverns. Where do I go now? R E Gillam, 115 PRO COY RMP, BFPO 36.

The Sword of Hrakel on Vic20. How do I get past the wolf and open the small door in the forest, and deal with the man in chains with the girl? A Roberts, 17 Fallfield Road, Tuffley, Glos GL4 OND

The Fourth Protocol on Commodore 64. What is the password for the lift in the Sentinel house? I can give any info on part I and also Shadowfire and Frankie Goes to Hollywood. David Roe, 'Linden', The Mall, Lismore, Co Waterford, Eire.

Message from Andromeda, Return to Eden and Jewels of Babylon on Amstrad. Any help gratefully received. Richard Altham, 387 Whalley Road. Ramsbottom, Bury, Lancs.

The Golden Apple on Spectrum. How do you get the emeralds? Of what significance is the parrot's answer? How do you get the jewel on the sea bed? N McIntyre, 27 Carnock Gardens, Milngavie, by Glasgow C82 7RU.

Madness and the Minotaur on Dragon 32. I need help with Everything. Especially making light to decend the stairs, obtaining the shield and going to the forest K. Miller, 25 Rannock Road, Redhouse Estate, Sunderland, Tyne and Wear SRS SEU.

Spinx Advenuture on Electron. How do I get across the lake? Alan Maycock, 97 Morley Grove, Harlow, Essex.

The Fourth Protocol on Spectrum. I have 92 per cent but I cannot answer Plumb's last four questions. Can anyone help? J. Sumter, 10 All Saints Close, Springfield, Chelmsford, Essex CMI SHT.

Snowball on BBC. What is the code to the security door under the habidome? ben Todd, 21 Platts Lane, Tarvin, Chester CH3 8LH.

Return to Eden on Amstrad. Where do I go to get out of the maze of maize and find auto sign? James McMahon, 12 Sidehead Holdings, Stone House, Lanarkshire.

Fourth Protocol on Spectrum. What do I do about Thorn and Bracton? What are the answers to Plumb's questions? William Stevenson, 183 Beech Hill Avenue, Beech Hill, Wigan, Lancs.

Return to Eden on Spectrum. How do you get past the plant which keeps strangling Kim? J. Turtle, 7 Hughes Street, Liverpool, L62 BD.

The Quest for the Holy Grail on Spectrum. How can I prevent being frazzled by the knight? Any help welcome. Jeanette Augoustis, 8 Setton Road, Wallasey, Merseyside I45 SBS. The Hobbit on Spectrum. How do I

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All figures compiled by Gallup/Microscope

Top Twenty

1	(1)	Elite (Spectrum C64 BBC)	Acornsoft/Firebird
2	(4)	Formula One Simulator (Spectrum C64)	Mastertronic
3	(7)	They Sold a Million (Spectrum Amstrad)	Hit Squad
4	(2)	Winter Games (C64)	US Gold
23456	(9)	Finders Keepers (Spectrum C64 Amstrad)	Mastertronic
6	(6)	Way of the Exploding Fist (Spectrum C64 Amstract	i) Melbourne House
7 8	(-)	Robin of the Wood (Spectrum C64)	Odin
	(8)	Ten Computer Hits (Various)	Beau Jolly
9	(15)	Action Biker (Spectrum C64)	Mastertronic
10	(3)	Monty on the Run (Spectrum C64 Amstrad)	Gremlin Graphics
11	(-)	Beach Head II (Spectrum C64 Amstrad)	Access/US Gold
12	(10)	Frank Bruno's Boxing (Spectrum C64)	Elite
13	(5)	Fighting Warrior (Spectrum C64 Amstrad)	Melbourne House
14	(-)	Who Dares Wins II (Spectrum C64 Amstrad)	Alligata
15	(-)	International Karate (Spectrum)	System 3
16	(14)	Back to Skool (Spectrum)	Microsphere
17	(12)	Impossible Mission (Spectrum C64)	Epyx/US Gold
18	(20)	Saboteur (Spectrum)	Durell
19	(13)	BMX Racers (Spectrum C64)	Mastertronic
20	(18)	Daley Thompson's Supertest (Spectrum)	Ocean
ig	ures c	ompiled by Gallup/Microscope	

Readers' Chart No 52

1	(1)	Way of the Exploding Fist (Spectrum C64 Amstrac	Melbourne House
2	(1)	Fairlight (Spectrum)	The Edge
3	(3)	Hypersports (Spectrum/ C64)	Imagine
4	(4)	Red Moon (Spectrum C64 Amstrad BBC Electron)	
5	(5)	Monty on the Run (Spectrum/ C64)	Gremlin Graphics
6	(9)	Nightshade (Spectrum)	Ultimate
7	(-)	Spy vs Spy (Spectrum C64)	Beyond
8	(8)	Frank Bruno's Boxing (Spectrum C64 Amstrad)	Elite
9	(-)	Nonterraqueous (Spectrum Amstrad)	Mastertronic
0	(-)	Highway Encounter (Spectrum Amstrad)	Vortex

Winning Phrase No 52: "Fairy lights on the tree soon" from R. Robertson of Mossend, Lanarkshire who wins £25. Honourable mentions for "SALT . . . sign another lot of tripe?" from J. Burnett of Camberley and "The art of PR – lost by A*str*d?" from Philip Arkley of Accrington, Lancs.

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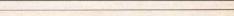
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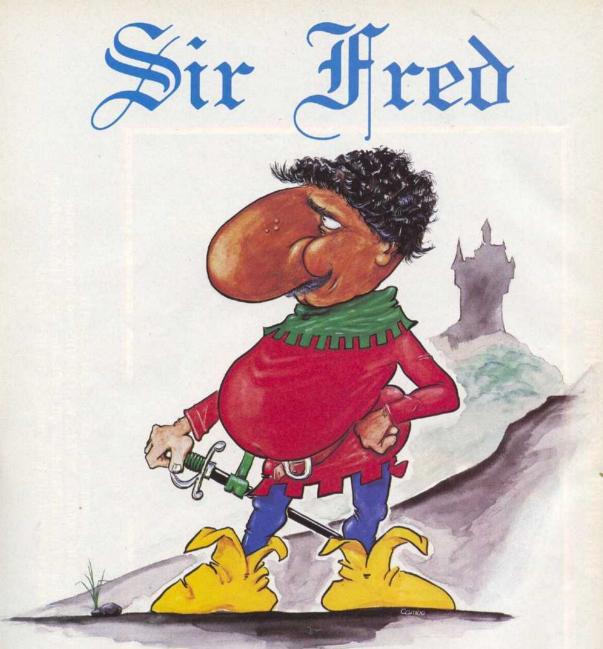
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The Atari ST Companion has been written with the benefit of full hands-on experience of the machine. Jeremy Vine begins with an overall look at the ST, followed by a detailed introduction to the GEM (Graphics Environment Manager) system. This offers facilities comparable with the much more expensive Apple Macintosh, including windows, pull-down menus and the facility to use a mouse to point to icons to replace typed commands.

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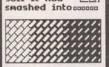
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And with little prompting the system identified the drain as one David Tara



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New Releases

COMMUNIST

Robin of the Wood from Odin Computer Graphics should not be confused with Robin of Sherwood by Adventure International. The latter is an adventure, the former - a multi screen Ultimate-style game.

Very pretty it is too, with finely detailed graphics and (on the Spectrum version) about the best sound effects you could reasonably expect. The central figures are neatly animated - watch out, in particular, for the way Robin smashes baddies over the head with his stave . . . vicious stuff.

The plot basically has you as Robin hunting around the wood for quivers of arrows and other objects which will help you gain your place at the archery tournament where lots of really nice things happen to the winner. Getting there involves witches that look rather like Valeria from the Addams family and an old Ent, who is in charge of three magic ar-



rows. I always thought an old. Ent was standard showbusiness shorthand for someone forced through ill luck to do the summer season at Rhyl, but apparently this one is a sort of mystic communist who redistributes cash to the poor. He wants paying, anyway.

Controls are kept to a minimum, and it is possible to play the game with just a joystick, though it's a while before you realise there is no command to pick up and drop things and all those processes happen automatically. Playing the game for a while I began to find it a little slow, but that may simply be a matter of not having succeeded very far into it. Anyway it's good to look at and gets my vote for the greenest game yet released.

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Blast Buggy is the latest game from Shadow Games – a company that specialises in producing arcade games for the QL, an almost solitary and I'd have thought soul destroying occupation.

Though Blast Buggy is not without virtues, big colourful graphics amongst them, it sufthe week ORIGINAL TOUCHES

What to say about Sweevo's World? The game raises a number of problems chief amongst which is that the whole look of the game and much of the game play is derived from titles like Knight Lore and Alien 8.

I can hear the cries of ripoff beginning already.

However, just some, a very few, games actually equalled and even surpassed Manic Miner despite being derived from its basic ideas. So I think Sweevo's World surpasses both the Ultimate games from which it develops many of its ideas.

The game is written by Gargoyle, highly respected for their original style from Tir Na Nog to Marsport and to a certain extent it's a shame that this latest release should be less original. The game is, nevertheless, extremely entertaining and technically very proficient indeed.

What I like about it is the way the surreal irreverent and indeed determinedly irrelevant nature of the plot is maintained in genuinely funny animation, gameplay scoring and background settings.

Sweevo is a bit like ET in a way. Its chief characteris-



tic is a walk and facial expression that suggests incompetence. In fact Swevo's idiocy is the reason for being given the task of clearing up the genic mutations on a planet that looks a little like something Terry Gilliam might have dreamed up.

One ton blocks have a habit of falling, giant pine-apples litter the rooms, innocent floors are suddenly penetrated by giant fingers and a goose races madly around waiting for you to say Boo.

Viewpoint is à la Ultimate, as though looking above each room high in

fers from a screen so flickery as it scrolls along I found it close to unplayable. I take it this is because of the considerable screen detail which has to be shunted about at speed. It doesn't work.

The game is hardly origi-

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Friday the 13th	Arc	Commodore 64	€8.95	Domark	Temple Tower	Arc	Spectrum	£1.99	Atlantis
The Human Race	Arc	Commodore 64	£1.99	Mastertronic	Yie Ar Kung Fu	Arc	Spectrum	£7.95	Imagine

New Releases

one corner. Movement is therefore diagonally across the screen.

Like the Ultimate games, part of the fun is simply getting through some of the rooms. It requires the same sort of judgement, timing and use of likely looking objects that Knightlore had, but rings some changes with rising platforms, L Plates and sudden finger stabs

The preproduction version I played didn't contain the large number of other animated characters promised for the game. If the relentlessly trudging goose is anything to go by we can expect something which equals or even surpasses Ultimate's cartoon quality robot figures.

The game is going to need a lot more play before all of its bizarre secrets are laid bare. For the moment I'd say I'm impressed. After the initial 'but this is just like Ultimate' reaction, I'm finding more and more original touches.

The chances are you'll love it.

Program Sweevo's World Price £7.95 Micro Spectrum!

Supplier Gargoyle Games 74 King Street Dudley West Midlands

Amstrad

nal. Blast Buggy is a version of that arcade game variously titled Moon Buggy, Lunar Buggy, etc., which involves moving a rover vehicle across the craggy surface of a lunar landscape.

The one virtue of the game is the large animated sprites. Other than that the flicker spoils the thing completely for me. Shadow Games deserve plenty of credit for putting out QL arcade games. however, and God knows there isn't much else around. But I think you'll only enjoy this if you've never played it before, haven't seen it running on many other, superficially humbler, micros and are desperate for something to play on your QL.

Program Blast Buggy Price £12.95 Micro OL Supplier Shadow Games 70 Gooseacre Cheddington Beds

57 VARIETIES

Brainstorm is a budget game from Bubble Bus and it's ev-



erything you can reasonably hope for from a cheap title. It's a question of spot the references in the plot to countless other games that have gone before: search the castle with your jetman, seek out various objects and destroy them, find keys to get through locked doors and watch out for the 57 varieties of animated sprite. So no originality whatsoever is the bad news.

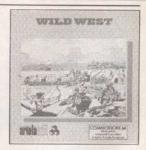
The good news is that it's beautifully presented with nice big characters and detailed touches in the background to keep it interesting. A certain amount of brain is required in reasoning out what object is destroyed by what other object.

There's more than a couple of hours worth of wholesome destructive entertainment, well presented and lacking only originality for £1.99. That's fair enough.

Program Brainstorm Price £1.99 Micro Spectrum Supplier Bubble Bus Software 87 High Street Tonbridge Kent TN9 1RX

SNAKE STRIKE

Wild West is a disc-based graphic adventure from Ariolasoft. It has many virtues but they aren't of the sort that conventional text adventure fans would enjoy. The main point is that the input format is very restricted; at each stage there are only three options represented by little cartoon



figures with speech bubbles appearing above their heads.

What this means is that the game can't have the richness of puzzle found in the average text adventure. On the other hand, it features some really excellent graphics used in unusual ways. For example, in the opening section one wrongly made decision caused a snake to strike, this is presented in a series of 'frames' of action with the snake getting bigger and bigger - a little like the sort of technique used in movies.

Each section is relatively short and they are differentiated by repeated disc access; on the standard Commodore drive this is a pretty slow business and I found it irritating in the extreme. I think that, judging by the cute graphics and simple style of user input, this is really intended as a game for fairly young children, and as such it has lots to recommend it.

Program Wild West Price £12.95 Micro Commodore 64 Supplier Ariolasoft

Asphalte House Palace Street London SWIE 5HS

Week

Crazy Crazy Forbidden Tower Royal Casino

Arc Vic20 Arc S Spectrum

£1.99 Mastertronic Atlantis

£1.99 £6.95 Mastertronic

Key: Ad - adventure Arc-arcade

S-strategy-simulation Ut-Utility

Ed-education

A Whitlock, 36 Old Quarry Close, Rubery, Birmingham, B45 9TU Ariolasoft, Retail. Atlantis, 19 Prebend Street, London N1 8PF, 01-226 6703. Bubble Bus, 87 High Street, Tonbridge, Kent TN9 1RX. 0732 355962. CDS, Silver House, Silver Street, Doncaster. Domark, 204 Worple Road, London SW20 8PN, 01-947 5624. Enterprise, 31-37 Hoxton Street, London N1 6NJ, 01-739 4282. Imagine, Imagine Software, 6 Central Street, Manchester M2 5NS. Kuma, Kuma Computers, 12 Horeshoe Park, Pangbourne, RG87JW, 07357 4335. Mastertronic, Park Lorne, 111 Park Road, London NW8 7JL, 01-402 3316. Psientific, 37 Cottesmore Road, Hessle, North Humberside. HU13 9JQ, 0482 649187. Romantic Robot, 77 Dyne Road, London. NW6 7DS, 01-625 9463. Silver Soft, Studio 7D Kings Yard, Carpenters Road, London E15 2HD, 01-985 5614, TBD, Units 18-20, Rosevale Road, Parkhouse Industrial Estate, Newcastle under Lyme, 0782 620321.



Back to the future

ne of the inexorable realities of the chip industry is the constant erosion of cost per bit of semiconductor memory.

Dynamic Ram chips quadruple in size approximately every three years; 4K, 16K, 64K and now 256K, which is the current production standard. One megabit chips are waiting to go into mass production and prototype four megabit chips are working in the lab.

Over the last eighteen months the 256K bit chip has become the new standard and the price of the 64K chip has collapsed. The drastic reduction of cost of the 64K chip has made some computers much cheaper over the last year or so. The bigger the machine's memory the bigger the reduction, hence the QL halving in price.

The long term effect is that everyone will have a lot more memory.

The superb Apple Macintosh is a couple of years ahead of the average home computer in providing lots of memory. By looking at how all that memory is used in a Mac we can get an idea of what the next generation of home computers will be offering.

The Mac comes in two sizes, advertised as 128K bytes and the 512K bytes Fat Mac. (In fact this is incorrect because the Mac doesn't have any bytes at all, its 68000 processor works in 16-bit words. The Mac really has either 64K words or 256K words.) Either way you look at it the Mac has a lot of memory. Memory upgrades are available up to 4 megabytes (2 megawords) which really is a hell of a

lot of memory. The fact that this is all useable by one person takes some believing, but it is.

The first use is in helping to provide a user-friendly environment. This takes the form of windows, icons, pull-down menus and pointer (mouse). A further advance are the extensive help facilities commonly built into application programs. If you get stuck the computer tells you how to get unstuck.

Switcher is a program that allows several programs to live in the Mac at the same time. The user can switch between them at will, say from a word processor to an arcade game to a database.

A Ram disc is an area of memory set aside that acts as though it were a disc drive, but with virtually instant access. This is very convenient for repeated file handling and is already a feature of the Amstrad 8256.

A huge inconvenience of using a printer is waiting for it to finish before you can use the computer again. With lots of memory you can use a print spooler. The spooler software sends whatever is to be printed to a special area of memory whence it is delivered to the printer at the printer's speed. This leaves the computer free to get on with the next job.

Another sophisticated way it uses lots of memory is the cache. This is an area of memory that is empty when you start using the computer. As you work away it looks 'intelligently' at what you are accessing most frequently from the disk and holds it in Ram instead. This makes access virtually instantaneous and speeds up whatever it is you are doing. The contents of the cache are constantly changing as it up-dates itself to hold whatever it is you are using most.

These few examples from the Mac serve to what the appetite.

As Ram prices continue to fall, though, home machines will soon be able to offer many of the same facilities.

And the memory will bring with it more intelligent and considerably easier to use software.

The micro will begin to be able to help you, rather than the other way around.

Bruce Everiss

Puzzle No 185

I have just returned from the Post Office with some stamps. From the information given, can you determine how many of each denomination I have?

- i) I bought stamps in three denominations: 13, 17 and 23 pence.
- ii) The three values were coloured green, blue, and red (though not necessarily in that order).
- iii) In all, I bought 100 stamps.
- iv) I have at least one of each value.
- v) The total bill was for an exact number of pounds.

I'm afraid that this will not enable you to find the answer, but if I were to add that I spent as many pounds as I bought red stamps, you would be able to give me the solution.

Solution to Puzzle 180

The four smallest values are 275 degrees centigrade 9527 deg.F.), 2345 deg.C. (4253 deg.F.), 4685 deg.C. (8465 deg.F.), and 10985 deg.C. (19805 deg.F.).

```
10 LET C=-40
20 F=C%9/5+32
20 F=C%9/5+32
40 LET C%=STR*(F) :LET F$=STR*(F)
40 IF LEN(C%)(C)LEN(F$) THEN GOTO 150
50 DEWNIDS(C$, N, 1)
70 T**
80 FOR M=1 TO LEN(F$)
100 NEXT(F$, M, 1)='X':T**1.00TO 130
100 NEXT N
100 PENTO, F$
150 LET C**C+5
150 LET C**C+5
150 LET C**C+5
```

The equation for converting degrees centigrade into degrees Fahrenheit is F = C * 9/5 + 32. As we are only interested in whole number values, we need only test centigrade values that are multiples of five. These are converted to their Fahrenheit equivalents in Line 30. To determine if each of the pair of values contains the same digits, each digit of the centigrade value is taken in turn and the Fahrenheit reading is scanned to detect any such value.

Winner of Puzzle 180

The winner is Bill Stanton of Avenue Court, St Albans, who will be receiving £10

Rules

The closing date for Puzzle 185 is December

The Hackers



TM

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